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Madras Information

"*We Seek to Serve and Not to Compete*"

Volume XIII No.

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16 MAR 1959
MADRAS

FEBRUARY 1959

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Published every month by the Director of Information and Publicity, Fort St. George, Madras-9

Wrapper design by SARANA

Designs and Layouts by ANAND

CONTENTS

PAGE

Greatest Happiness for the Greatest Number .. 3
SRI K. KAMARAJ

The Administrator in a Welfare State 4
SRI M. RUTHNASWAMY

Introduction of Tamil as Official Language .. 5
SRI S. VENKATESWARAN, I.C.S.

How Madras has Solved its Food Problem 7
SRI A. VENKATESAN, I.A.S.

The Industry in Madras 12
SRI T. K. PALANIAPPAN, I.A.S.

Industrial Relations 14
SRI V. BALASUNDRAM, I.A.S.

Public Works—A Nation Building Dept. 16
SRI J. G. ABRAHAM

The Villager at the Helm 20
SRI M. G. RAJA RAM, I.A.S.

Linguistics and Tamil 22
SRI T. P. MEENAKSHISUNDARAM

Trend of Tamil Literature Down the Ages .. 24
SRI R. S. DESIKAN

Folk Dances of Tamilnad 26

PAGE

Vigilance Welfare 28
SRIMATHI V. T. LAKSHMI

Medical Aid to the Masses 30
DR. V. R. THAYUMANASAMAMI

Veterinary Education 35
DR. I. D. MANTRAMURTHI

Small Savings Wears a New Look 38
SRI M. SHANMUGAM

Tourism—A Peep into the Land of Tamils .. 43

Tales the Stones Tell 47

Christian Monuments in Madras 53
DR. M. AROKIASWAMI

Temples in Tamilnad 58
SRI T. M. BHASKAR TONDIMAN, I.A.S.

A Treasure House of Antiques 62
DR. S. T. SATYAMURTI

Highway to Prosperity 68
SRI K. V. EKAMBARAM

Irrigation for Plenty 72
SRI U. ANANDA RAO

Co-operative Farming in Madras State 76
SRI A. PALANIAPPA MUDALIAR, I.A.S.

Fisheries Then and Now 79
SRI C. P. KELU ERADY, I.A.S.

Power for Prosperity 81
SRI V. P. APPADURAI

Preservation of Cattle Wealth 84
DR. D. PATTABHIRAMAN

Events of significance in 1958 88

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Printed by the Controller of Stationery and Printing, Madras, and Published by the Director of Information and Publicity, Government of Madras

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16 MAR 1959
MADRAS

(3)

Greatest Happiness for the Greatest Number

SRI K. KAMARAJ,
Chief Minister.

There is a saying " God created the village and man made the town ". Being greatly absorbed in his own creation, man began to neglect God's creation. What were once paradise on earth became deserted and somnolent backwaters of a great civilization. And so man began to escape from the village. In such an atmosphere poverty became accentuated by the fact that the poor began to oppress the poorer, and caste consciousness reigned supreme leading to factions and petty squabbles.

The fact that India could not make any headway unless the villages were transformed, was recognized and repeated by every statesman and economist who dealt with the problem of India. The result was the launching of the Community Development Programme in 1952. Even before anybody thought of it, this State launched with the blessing of Mahatma Gandhi a programme for the development of the community in 1946 itself in the shape of Firka Development. This was continued until 1953 when this work was amalgamated with Community Development.

Now there is a reawakening in the minds of men and they are turning their attention to the villages once more. Development of the Community is the call of the day and this is being taken up by the people with new vigour and enthusiasm. This transformation of the social and economic life of the community is to be brought about by arousing and stimulating their basic desire to have a happier life and processing the development of the area through people's own democratic and co-operative organizations, the Government coming in only with technical advice, supplies, credit and such other assistance as may be required. The operation of the programme through the people's organizations automatically strengthens the foundations of democracy on which our Constitution stands. It aims at making the villager understand his own position in this democratic set up and contribute his mite in the release and utilization of social energy, and to fuse together once again his co-beings into a state of dynamic society with abundant vitality. There are at present 176 Community Development Blocks in this State with 9,300 villages in their fold. About 57 per cent of the rural population are now covered by these blocks. Now when one sees them, the first questions one is apt to ask will be " Have these villages really benefited by the Community Development Programme ? Have the men in the villages found a better way of living ? " It is not only the number of roads laid, wells dug, houses and schools built, or other amenities provided that should be the yardstick of the villager's prosperity but whether with all these amenities the man has been able to earn more and has the will and drive to earn more or whether he gradually extricates himself from the grip of poverty to allow his mind to think of the luxuries of life. This will be a proof that this man has, by helping the community, helped himself. This is the essence of Community Development. Not just looking to the Government to do everything for the people, but taking the initiative from the Government and working for the improvement of the Community in general and for the well being of the individual in particular is Community Development in action.

The Government is doing every thing towards this end. It provides funds, talents, and every possible aid for the development of the Community. It is up to the people to make the best possible use of them. They have to take full advantage of this to better the Community and better their lot. When every man and woman realizes this and begins to act, then the village will really become once more the creation of God. That day is not far off. And in its wake will come prosperity and happiness and plenty. Community Development will then be complete. For it has been said, " That action is best which procures the greatest happiness for the greatest number ".

The Administrator in a Welfare State

Sri M. Ruthnaswamy.

According to Sir Josiah Stamp, a great administrator in public as in private business, the State in England experienced a revolution in ideals when, as a result of the Liberal Party coming into power in 1906, the Government "developed from policeman and regulator to doctor and social reformer". In India, this happened long before that date. Even before the Crown assumed responsibility for the Government of India from the East India Company, the State had been "doctor and social reformer". Social reform enforced by Government dates from East India Company days. Sati and Infanticide were legislated against from those days. And in the period of the Government by the Crown, the State as landlord has tried to provide irrigation, roads and wells. A Provincial Civil Medical Service had been established as early as 1838 in Bengal. In 1880 the Civil Medical Service was established in all the provinces. A separate Sanitary Health Department was established in 1904. Village Sanitation Acts were passed in 1865. The first schools in India under the British were established early in the nineteenth century at a time when the Government had no schools of its own in England. And from the first decade of this century Agricultural, Industries, Co-operative Departments have been established to promote the economic progress of the people.

With the coming of freedom and independence has come the laudable desire actively and rapidly to promote the economic and social progress of the country. Welfare and progress have begun to be planned. The new State of Planning and Welfare requires a new kind of administrator. English students of administration like Professor Robson and Sir Earnest Barker think that the civil servant of today in England is a "new kind of man primarily and essentially concerned with the discharge of social and economic functions". As administration no longer limits itself to regulating service "controlling the conduct of individuals" but performs "service functions" doing something for the people in transport, education, health and housing, the administrator has to be the kind of man who will render service rather than perform functions. He has, as Lord Stamp advises, to promote energetic and far reaching projects based on plans—which requirement "demands a more constructive type, one who sees possibilities and opportunities rather than difficulties and dangers, who is capable of aggressive actions rather than passive obedience, the following of precedent and the refusal of risks". Professor Barker suggests the administrator of the modern State requires to be "in real contact with the various worlds of the social universe especially the business and the labour world which his work will so closely affect". Other questions are asked about the administrator of the new State. Does he possess the faculty of looking objectively at problems? Does he have the knack of getting things done? Can he modify his own programme in view of the larger picture of the Plan? Can he pass on credit to others? Can he subordinate the hundred per cent success of his own part to the success of the whole? Is he a good Committee man? Has he an emotional and human sense or is he dry and routine-ridden? Can he extract achievement from and through compromise?

The task of the administrator in the future much more in the past, says Lord Stamp, will be to secure the maximum social net product out of any policy or programme of his Government. Two classes of administrators, he advises, are cleverly marked out as unsuitable at once for this purpose—

(1) the forceful, push and go business man of a single management type, accustomed to pursuing his goal and achieving it in a competitive world; and

(2) the exactly trained civil servant, given to the analytical application of a legislative programme in a statute, co-operating with other departments similarly based, working to the elaboration of a complete static programme to be generally applicable by principle and precedent;

for the administration of a planned welfare State has to render services rather than produce goods, has to deal with men rather than with machines.

How is the new administrator to be obtained? He has to be produced. Nobody is a born administrator—he has to be trained for administration. He may be trained in the old way, by being put on the job straight away after selection and learn the hard way by making mistakes and getting them corrected through falls, bruises, slating about one's bad work and silence over good. But this old method involves waste of time and energy on the part of teachers as well as the taught. A Planned State cannot get on with this old "rule of thumb" method. Planning requires trained administrators. They must be trained after recruitment. The lower grades—the clerical and subordinate services—according to the experience of other countries like England had best be trained in the department itself.

(*Continued on page 26*)

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Introducing Tamil as Official Language of Madras

SRI S. VENKATESWARAN, I.C.S.,
Chairman, Official Language Act Implementation Committee.

Since India attained Independence, there has naturally been a growing public demand that official correspondence should be conducted in the regional language. Accordingly, the Government of Madras ordered—this was in 1948 before the creation of the Andhra State—that the scheme of conducting official correspondence in the regional language at the district level should be tried on an experimental basis in two districts, viz., East Godavari district for Telugu and Tiruchirappalli district for Tamil. This scheme was tried for some years, but did not make much progress, and remained an experiment and was continued as such from year to year. It was not sufficiently realised that it was essential for the success of such a scheme—

(1) that a standard glossary giving the Tamil equivalents of administrative terms in English should be prepared and supplied, and

(2) that an adequate number of Tamil typewriters and typists should also be provided.

In recent years after the creation of the Andhra State, there was naturally a strong public demand that Tamil should be official language of this State, and this led to the enactment, by the State Legislature, of the Madras Official Language Act, 1956. Under this Act, Tamil has been declared as the official language of Madras State, and the State Government has been empowered to regulate, by notification, the introduction of Tamil for official purposes, in practicable stages, in the various offices under the State Government. The change-over from English is to be effected as quickly as possible and English will be continued for official purposes only till the arrangements necessary for effecting the change-over can be completed.

The implementation of the Official Language Act requires very considerable and detailed planning, and the formulation of practicable programmes and their enforcement. The State Government have, therefore, appointed a High Level Committee, called the Official Language Act Implementation Committee, with a Member of the Board of Revenue as its Chairman, and four other members. This Committee has been functioning from January 1957. It has a Secretary and its small office has been located in the Office of the Board of Revenue, Chepauk, Madras. The Committee meets at least once every month to review the progress made and to settle all the details in connection with the implementation of the Act.

The Committee has also a Special Officer who tours all the districts and visits the offices in which Tamil has been introduced as the language for official correspondence, for seeing the progress made and how the scheme has worked and to settle, on the spot, as far as possible, any difficulties experienced in noting and drafting in Tamil.

A Standard Glossary giving the Tamil equivalents for administrative terms in English which have been in common use in all departments, has been printed and supplied in adequate numbers to all offices in the State. This glossary was first prepared by the Madras Presidency Tamil Sangam, Tirunelveli, and subsequently finalised by a Committee set up by the Sangam with the approval of the Government. This was the first essential step to be taken for ensuring the successful introduction of Tamil as the language for official correspondence in the State and I take this opportunity of placing on record, on behalf of all persons interested in the implementation of the Official Language Act, our appreciation of this pioneer and arduous work undertaken by the Sangam in connection with the preparation of the glossary. The Committee has deliberately adopted a realistic approach in preparing this glossary: in respect of each administrative term in English, the glossary gives the equivalent which is already in general use or which will be easily understood, and it gives, at the same time, the equivalent in literary Tamil which is not familiar now and which can be adopted as the staff and officers gain experience and find it possible to write in more literary Tamil than they can handle now.

The Committee does not claim any perfection for the glossary, though it is the result of enormous and painstaking effort undertaken by a number of competent persons for over three years. But the glossary is adequate for the immediate use of the staff in the offices for noting and drafting in Tamil. The Committee has made it clear that any suggestion for improving the glossary from any person interested will be most welcome and receive the most careful consideration at the hands of the Committee. A glossary of this kind can be perfected only in course of time as the use of Tamil as the official language in Government offices makes progress. It is impossible to start with a perfect and universally acceptable glossary, and any attempt to do so would only result in delay in the introduction of the official language.

Many of our departments have to use not only general administrative terms but also technical terms peculiar to them. It is, therefore, necessary that each department should have its own supplementary glossary. Heads of Departments have accordingly been requested

to prepare and send a supplementary glossary relating to their departments for scrutiny and approval by the Committee. So far, supplementary glossaries have been received from eleven departments.

The basic consideration in the process of implementation of the Official Language Act is that the introduction of Tamil as the language for conducting official correspondence in any department should not result in any deterioration in the quality or pace of disposal of business in the department. The policy of the Government is that, subject to this basic consideration, Tamil should be introduced as the official language for correspondence in the various departments, as soon as the arrangements necessary for the introduction of the change-over can be completed.

The Government have accordingly decided that, to begin with, Tamil should be introduced as the official language only in offices below the level of Heads of Departments, that we should begin with offices (other than Courts) for which English typewriters have not been sanctioned and that other offices in the various departments should be taken up, in convenient batches, the order of preference being determined with reference to the extent to which the general public, particularly the ryots in villages, have to deal with them. The following departments have, on this basis, been selected as the first batch for the introduction of Tamil as the official language:—

(*a*) Revenue Department (including Block Development Offices).

(*b*) Public Works Department (Irrigation and Electricity).

(*c*) Department of Agriculture.

(*d*) Department of Animal Husbandry.

(*e*) Hindu Religious and Charitable Endowments Department.

(*f*) Education Department.

(*g*) Local Boards.

(*h*) Co-operative Department.

(*i*) Village and Panchayat Courts.

All other Courts can be taken up only after the translation of the various Acts and after making sure that all legal points can be expressed with precision in Tamil.

Even after Tamil has been introduced as the official language, a complete change-over to Tamil cannot be achieved immediately in all offices. English will have to be retained for certain purposes, though the extent of the use of English will be reduced to the minimum and may be expected to decrease in course of time. For example, in Taluk offices, reports on suit notices and suits will have to be sent in English till translations of the Acts concerned have become available and the staff can deal with legal points in Tamil with the necessary precision.

The Government have accordingly authorized the Heads of Departments to allow their District Officers concerned to retain the use of English to the extent to which it is found unavoidable. But it has been made clear that, in the offices in which the Scheme has been introduced, all communications or orders issued to the general public or to private individuals should be invariably in Tamil. As regards departmental correspondence, that is, correspondence with other offices of the same department or with other departments, the public are not directly concerned with it, and even such correspondence should be carried on in English only to the extent to which it is found unavoidable. The Heads of Departments have also been permitted to use their discretion in regard to noting in offices in English, particularly on matters on which the staff are unable to note in Tamil with sufficient quickness and precision. These indulgences will be withdrawn as the staff acquires experience in quick and precise noting and drafting in Tamil. In regard to quasi-judicial orders or appealable orders, the order may be in English, but the gist of it in Tamil should be communicated along with a copy in English if the party is entitled to a free copy of the order; if he is not so entitled, he may be left to apply separately for a certified copy of the order in English in the usual course.

In January 1958, Tamil was introduced as the official language in all offices for which English typewriters had not been supplied. There are 1,925 such offices in this State and the scheme has been working satisfactorily in them.

Tamil can be introduced in the other offices only after Tamil typewriters have been supplied and typists have been trained to use them.

A Tamil translation of the District Office Manual has been prepared by Sri M. Ananthanarayanan, I.C.S., and it will shortly be submitted to the Government. Special arrangements will be made for the printing and distribution of the translation to all offices in the State. It is expected that this translation will be of great help to the staff as it will serve as a model for noting and drafting in Tamil.

The supply of Tamil typewriters is one of the formidable problems to be faced in connection with the introduction of Tamil as the official language. The Committee found that the typewriters in Tamil could be made more efficient by using an improved key-board designed so as to secure that the most commonly used letters are in the front row, while the letters and symbols using infrequently are taken to the top row. After a great deal of experimentation and practical tests, a standard key-board for Tamil typewriters has been evolved by the Committee and approved by the Government and orders have been placed with two Typewriter firms for supply of typewriters with the standardized key-board. The first batch of 100 typewriters has already been received, and they will be used at the Government Training Institute in Madras which is to commence working on the 5th January 1959 for training 200 Government typists on the new key-board. The training will be for a period of four months. These 200 typists have been drafted from the Revenue, Agriculture and Public Works Departments, and after their training, they will go back to their offices and supplied with the new typewriters so that Tamil could be introduced in those offices.

(*Continued on page* 46)

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Madras Tackles its Food Problem

SRI A. VENKATESAN, I.A.S.,
Director of Agriculture.

The problem of ensuring an adequate supply of foodgrains for its own people, is one of the axiomatic duties of every State. The special problem that confronts us in Madras is that, even to maintain the present level of consumption our production of foodgrains has to increase steadily at the rate of 1½ per cent *every year,* in order to provide for the steady increase in our population every year.

Now, successful crop production, as every one knows, depends on three main factors, namely, soil, seed and water. The foodgrains produced in the past nine years are given below for the area covered by the present Madras State. *

The figures make it clear that there has been a steady increase in rice production in Madras, over the past nine years, although the trend is not quite so clearcut in the case of other foodgrains like the millets. This has been due mainly to our sustained efforts in the Grow More Food Campaign. This campaign, under the driving necessity of improving our food supplies during the acute shortages during the Second World War, was directed towards (1) extending the area under cultivation of foodgrains and (2) increasing the acre yields by more intensive cultural methods.

The former was only a partial success, because there was really very little extra land in the State, that could be cultivated with profit. During the last 25 years, the cropped area in the present Madras State has ranged between 13½ and 15 million acres. This fluctuation is governed more by seasonal factors than any real changes in the actual area that is cropped, because in seasons of drought, rainfed areas have to be left fallow. However, the areas that are cropped more than once per year, are steadily increasing as shown below, indicating the increasing tempo of agricultural production.

Five-year period ending—		Irrigated area (in million acres.)	Double-cropped area (in million acres). PER YEAR.
1	1935–36	4·5	1·93
2	1940–41	4·3	2·16
3	1945–46	4·8	2·33
4	1950–51	4·8	2·07
5	1955–56	5·0	2·47

It is a fact of great significance that in the course of the past 25 years some five lakhs more of acres are now being cropped more than once. This is due mainly to the increase in irrigable areas. But for the limitation of the irrigation resources of this State we could have attained still better results, in putting the land to more intensive use and thereby stepping up our food production still further.

* *Year.*	*Rice.*		*Millets and other foodgrains.*		*Total foodgrains—Rice and Millets.*
	Area.	*Production.*	*Area.*	*Production.*	
	ACRES.	TONS.	ACRES.	TONS.	TONS.
1949–50	4,769,000	1,791,460	4,854,000	1,255,540	3,047,000
1950–51	4,299,000	1,950,000	4,675,000	1,144,330	3,094.330
1951–52	4,420,000	2,095,000	5,333,000	1,368,970	3,463,970
1952–53	4,309,000	1,989,000	5,730,000	1,112,560	3,101,560
1953–54	5,143,000	2,539,000	6,608,000	1,568,280	4,107,280
1954–55	5,335,000	2,753,000	5,908,000	1,777,240	4,530,240
1955–56	5,456,000	2,955,000	5,528,000	1,466,980	4,421,980
1956–57	5,538,000	3,103,000	5,597,000	1,519,740	4,622,740
1957–58	5,606,000	3,134,000	5,575,000	1,524,720	4,658,720

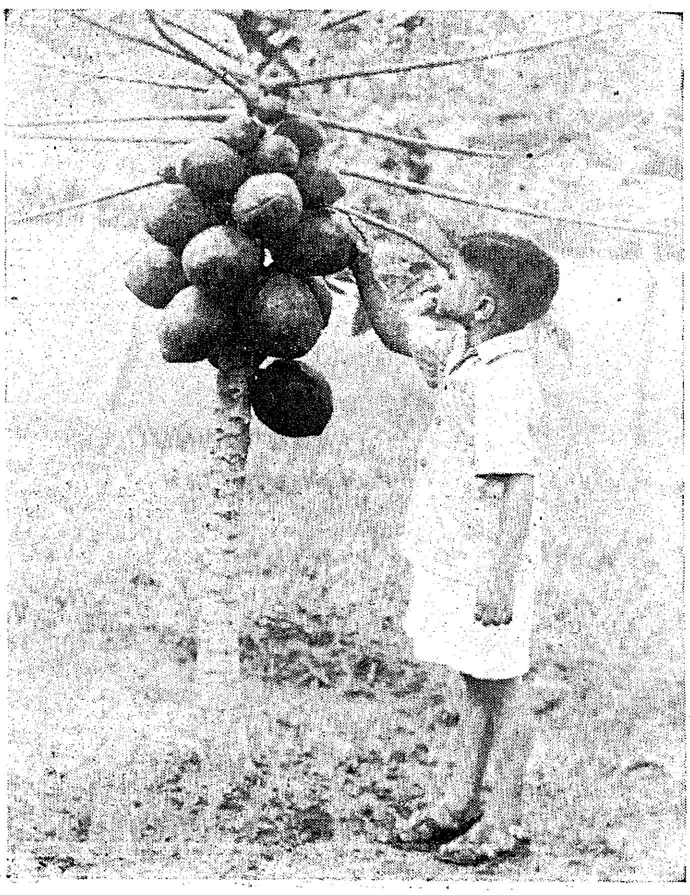
NOTE.—The Statistics from 1950-51 for rice are according to Crop Cutting experiments. The figures from 1952–53 for cholam, cumbu and ragi included under "Millets" are also according to Crop Cutting experiments. All the other figures are according to the traditional methed.

Seeds.

Coming to the next item, *seeds*, Madras has always been in the forefront in giving the highest priority to research and this had also paid ample dividends by way of high-yielding strains of superior quality.

In rice alone, we have now seventy-two superior strains, suitable for almost all the varied cropping conditions of the residuary State of Madras and these have now covered more than half the rice area of 56 lakhs acres in the State. Amongst these may be mentioned CO. 25 and CO. 26, as two outstanding strains evolved in 1948, which are not only resistant to the devastating disease known as the Paddy Blast, but are also very responsive to good manuring and are able to yield as much as 8,000 lb. per acre. CO. 25 has now covered over five lakhs of acres in Madras and is suitable for most of the districts as a Samba crop. Since then, two more blast-resistant paddy strains have recently been evolved for distribution ; these have the additional advantage of being much shorter in duration than CO. 25 and CO. 26.

GEB. 24 is a fine quality rice of medium duration of 150 days, which yields an average outturn of 3,000 lb. per acre. It is in addition a cosmopolitan strain, which can thrive in many parts of India and even in some foreign countries. TKM. 6 is another fine quality rice, which stands as an outstanding achievement of the Rice Research Station at Tirurkuppam, in Chingleput district. It is also both high-yielding and cosmopolitan, with a short duration of 110 days. It can grow well in all seasons and has the additional advantage of seed dormancy to avoid the risk of grains germinating in the field, if the crop gets caught up in wet weather at harvest time. For the Tambraparni tract in the South of Madras, several superior strains are available, one of which is ASD 5, a medium-duration, cosmopolitan type which is very useful for late planting in the main crop season. This strain has covered 3½ lakhs of acres already. ASD. 8, 9 and 10 are three other strains evolved from the Ambasamudram Research Station and very recently in 1956 yet another strain, ASD. 11 has been released as suitable for both Tirunelveli and Madurai districts.



A CO. 1 Papaya tree.

SR. 26 B is a successful introduction from Orissa, which is eminently suited for saline and brackish areas. Other successful introductions in paddy are the scented rices *Basumathi, Sugadas, Jeeraga Samba* and *Rascadam.*

The current work on rice is aimed at evolving new strains combining the maximum of desirable features, by way of resistance to drought or flooded areas, to fungus diseases like blast, strains which can thrive in varied types of saline soils, and also respond well to high levels of manuring without lodging, as the Japanese varieties are able to respond in Japan.

For poorer soils and semi-arid regions, millets like Cholam, Cumbu and Ragi are the best suited and these occupy an area of 50 lakhs of acres in the State of Madras. In Cholam, an outstanding achievement is the evolution, from hybridization and subsequent selection, of strain CO. 18. It combines a high grain yield of 6,200 lb. per acre (under irrigation), as against the normal yields of 2,000 lb. from local types and with its very short duration of 90 days, and its sweet and juicy stalks, it makes an ideal fodder for cattle. This strain has spread over two lakhs of acres already in Coimbatore, Madurai and Ramanathapuram districts. CO. 10 and CO. 11 are two other sweet and juicy-stalked fodder types that can yield up to 30,000 lb. of green fodder per acre. For North Arcot and Salem districts, the most suitable is the Talaivirichan Cholam strain TPT. 1, evolved from the Millets Station at Tiruppattur.

Madras has been the pioneer in the exploitation of hybrid vigour using it successfully in the Cumbu crop, and three superior, high-yielding hybrids have been popularised, which yield 40 per cent more than the local types, under both rainfed and irrigated conditions. Cumbu CO. 65 is a short-duration type evolved at Coimbatore and suitable for both dry lands and garden lands in Ramanathapuram, Tiruchirappalli and Tanjore and parts of Chingleput.

In ragi, three strains are available, CO. 5 is suited for South Arcot, parts of Salem and Coimbatore, both under irrigated and rainfed conditions. CO. 6 is a

Paddy Breeding Station.

white-grained ragi which has a high protein content of 14 per cent as against 11 per cent in the brown-grained types. CO. 7 is a very short duration variety suited to South Arcot and Coimbatore for cultivation under irrigation. Amongst the lesser millets, Samai CO. 1 is an olive-brown grained strain, suitable for Coimbatore, Salem, Nilgiris and parts of Madurai.

If we assess the spread of these improved strains of the Agricultural Department, 44 per cent of the total rice area in Madras was covered by improved strains of the Department in 1953–54 which has increased to 54 per cent, by 1957–58. During the same five-year period, the area under improved strains of cholam, has increased from 14 to 44 per cent ; of cumbu, from 44 to 61 per cent ; of ragi from 19 to 63 per cent and of other millets from 6 to 21 per cent.

Under the Second Five-Year Plan, the spread of these improved strains of foodgrains is proceeding apace with increasing rapidity and by the end of 1960–61 it is expected that the 50 lakhs of acres under paddy for which improved strains are now available would be fully covered. There would then remain only 5 lakhs of acres under paddy for which improved strains are not yet available. The area under millets too, can be expected to record substantial improvement during this period.

Considering the fact that even in an adverse season, our gap between supply and demand of foodgrains in an year is only of the order of 8 lakhs tons, or about 17 per cent of our present level of production and also the fact that the improved strains evolved by the Agricultural Department are capable of producing at least 10 to 15 per cent more than the local varieties that they would eventually replace, it can be said with confidence that self-sufficiency is a definite possibility in Madras, even in lean years. In seasons when Nature smiles, we will have, as at present, actually a surplus of over two lakhs of foodgrains.

Manures and fertilisers.

Next to seed, an adequate and timely supply of manures and fertilisers is the most important requirement. Ten years ago, in 1948 this State utilized only about 23,000 tons of ammonium sulphate. This rose to 48,000 tons by 1950–51 and in 1956–57 it was 1·20 lakhs tons. The offtake of this useful fertiliser can well go up to even two lakhs of tons, if it were not for the bottleneck of insufficient supplies. Alternative nitrogenous fertilisers like urea, calcium ammonium nitrate and ammonium sulphate nitrate are also in very short supply—though their consumption is increasing year by year. In this context, it should not be overlooked that fertilisers give the best results only when used in conjunction with green leaf manure, at the rate of at least 5,000 lb. per acre. In this aspect too, Madras can well claim to have shown the way to all the other States in India, as over 12 lakhs of acres have received green manures grown in the fields themselves, excluding other areas where green leaf cut from trees and shrubs were brought from elsewhere and applied to the fields.

The Japanese method.

The Japanese method of paddy cultivation, as modified for our Madras conditions, has given 7 per cent more of grain or 134 lb. of paddy per acre over the local improved methods recommended by the Agricultural Department, before the Japanese method was brought into vogue. The method recommended by the Department includes the use of fertilisers and improved seeds. The Japanese method involves the use of a few more additional items, such as using lower seed-rates, raised nursery beds, line planting and higher dosages of fertilisers. At present, the Japanese method has spread to about 11·6 lakhs of acres, i.e., about 20 per cent of the paddy area in Madras State. Since the increase in yields from the Japanese method is about 7 per cent over our local improved methods—our food deficit of 8-lakh tons—in lean years, can easily be bridged by first using improved seeds and then by adopting the Japanese method on every acre of paddy in this State.

Commercial crops.

In cotton, ten years ago, there was not even a single strain capable of spinning more than 25 counts. Today, *desi* cotton or *Karunganni* yields not less than 120 lb.

Cambodia Cotton Field.

lint per acre, while the American or Cambodia types yield 300 lb. lint and both are capable of a staple length of one inch, and more, and spin 30's to 40's counts under mill conditions. For an industrial crop like cotton, it is imperative that the number of varieties handled by trade, is limited to a select few, so that uniformity might be ensured.

Between 1951 and 1957, cotton production in Madras has increased from 2·98 lakhs of bales to 3·77 lakhs, with a corresponding increase in area too, from 8·8 lakhs acres to 11·6 lakhs acres. Our production of long-staple cotton has increased nearly four-fold, from 36,113 bales in 1950–51 to 132,117 bales by 1955–56.

Sugarcane.

Within the past six years, there has been a remarkable increase, by nearly 50 per cent in the sugarcane area in our State. The total area is now 1·20 lakhs of acres. During the same period the average yields of sugarcane have also gone up, from 35·29 tons per acre in 1951–52 to 40·44 tons per acre in 1957–58, an increase of nearly 12·5 per cent. The main item of development work is the raising and planting of short crop seed material, for which a premium is given to growers in order to serve as an incentive. As a result of these steps, Madras is now in a leading position, both in area and in the yields obtained from sugarcane per acre.

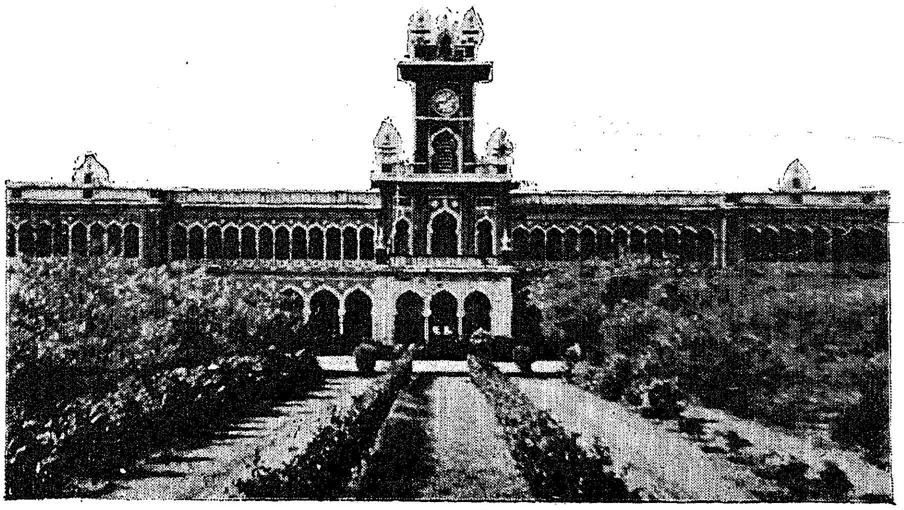
In oilseeds, the improved high-yielding strains of groundnut, gingelly and castor are very popular with the farmers as they bring in a return of nearly two crores of rupees every year. It is programmed in the Plan to increase oilseeds production in Madras by 1·66 lakh tons. In horticulture, a concerted drive has been started to popularise proper methods of orchard maintenance, as Madras has perhaps the widest range of fruit varieties, with also off-season production of fruits in several kinds. Madras was the first to evolve some very choice mango hybrids, from controlled crosses combining superior fruit quality with high productivity. In bananas, several superior varieties have been selected for garden land and perennial cultivation. An improved type of Papaya CO. 1, yielding fruits of very good quality has been evolved and popularised. The State has also the distinction of introducing the Criollo cacao, a high quality type of much industrial appeal and it is now being extended in suitable regions to develop a stable cacao industry in the country.

In the field of plant protection, the Agricultural Department can well claim to have made a major contribution towards the farmers' prosperity and in fact, there is a steady demand for pesticides and fungicides for controlling crop pests and diseases from all parts of Madras State.

Agricultural Extension, Education and Research.

All the foregoing achievements would not have been possible, but for the devoted efforts of an efficient band of competent workers who have the task of popularising the results obtained from research, and with the increasing tempo of improvement there is also an increasing need to have an adequate reserve of qualified personnel, both for research and for extension purposes. To meet this need the Agricultural College at Coimbatore has been strengthened and enlarged in scope, to train a larger number of (162) students every year. As a further step towards improving the quality of research, a new Post-Graduate Institute has also been started at Coimbatore in August 1958, for training candidates for the M.Sc. and Ph.D. degrees of the Madras University.

Agriculture has obviously a vital part to play in any Plan for the development of India as a strong and prosperous country and in this task the Madras Agricultural Department can not only look back with satisfaction on its achievements in the past, but can also look forward with confidence in playing an even more important role in the attainment of self-sufficiency in Madras State.



The Agricultural College Coimbatore.

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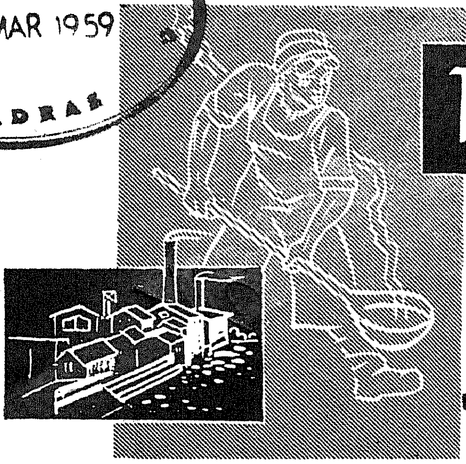


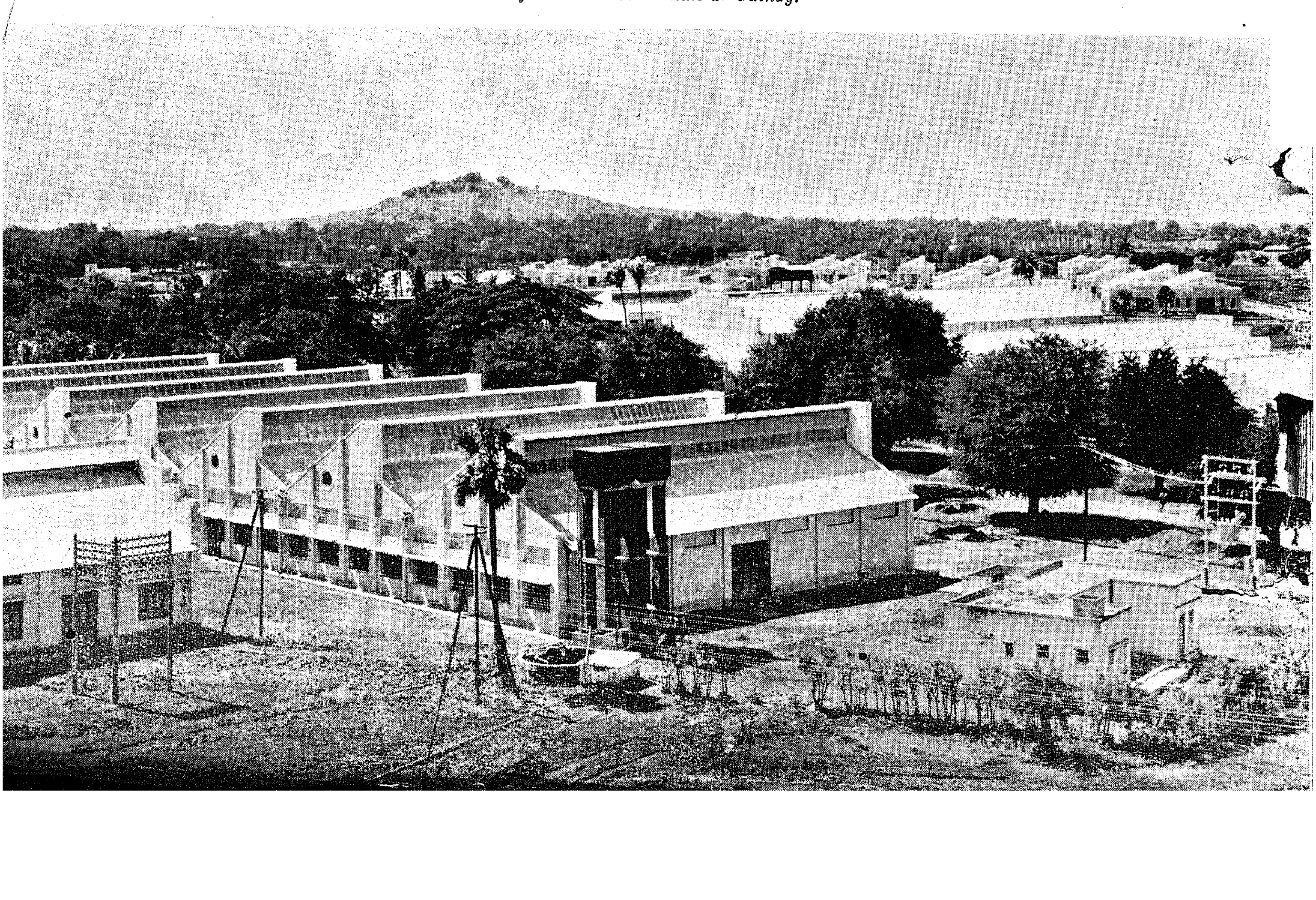
THE INDUSTRY IN MADRAS STATE

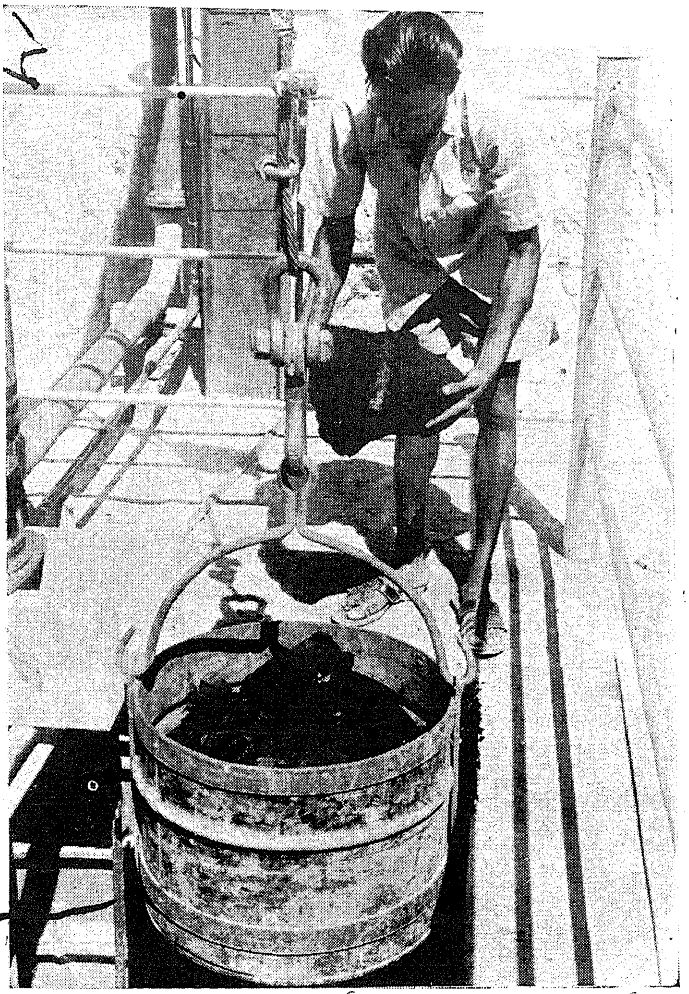
SRI T. K. PALANIAPPAN, I.A.S.,
Director of Industries and Commerce.

Till the beginning of 1955, the activities of the Industries Department were confined mostly to the maintenance of Commercial and other institutions already started, sinking of bore and tube wells for agricultural, industrial and drinking water supply purposes, the grant of loans under State Aid to Industries Act, Technical Education, Fisheries, Controlled Commodities and Sericulture. The development of industries was not also undertaken in any appreciable measure. The Polytechnics and the pumping and boring work were transferred to the Directorate of Technical Education and the Department of Agriculture in 1957 and 1958 respectively. A separate Directorate for Fisheries was formed in 1958. This Department is at present concentrating in the development of Industries, Heavy, Small Scale and Village, Handicrafts, Sericulture, Craftsmen Training and Industrial Co-operatives. The staff in the headquarters as well as in the districts has been strengthened. The Government have also given a fillip to the industrial development by constituting a State Industries Development Committee.

The State Aid to Industries Act as well as the rules thereunder have been suitably amended with a view to liberalise the provisions relating to the grant of loans and to minimise the delay in their grant. A sum of

An aerial view of the Industrial Estate at Guindy.





Lignite from Neiveli promises great impetus to the Industry in Madras.

Rs. 125·80 lakhs has been ear-marked for this purpose under the Second Five-Year Plan.

On the Research side, the Chemical Testing and Analytical Laboratory attached to this Department is doing valuable work in analysing samples of ores, minerals, foodstuffs, etc., and issuing test reports at nominal rates to private bodies and free of cost to Government Departments.

To tap the mineral resources of the State in general and to expedite the setting up of iron and steel plant and Aluminium plant in particular, a State Geological Branch, under an experienced Retired Superintending Geologist has been formed. This branch is functioning. Enquiries pertaining to mineral concessions under the relevant rules and mineral resources of the State are being attended to promptly.

Heavy Industries.

Neiveli lignite, Salem iron ore and bauxite will pave the way for rapid development of industrialisation in this direction. One pig iron plant was switched into production in the private sector at Coimbatore. Four more plants are expected to be started. Thermal power plant and the fertilizer plant proposed to be started a subsidiary to Neiveli lignite, will go a long way to augment the power supply in the State and to agricultural production respectively. The tests of bauxite ores, in connection with the setting up of the Aluminium Plant are being expedited. Ootacamund has been selected as an ideal place for the establishment of a photographic raw film factory and an infant milk food factory. Efforts are afoot to establish a Rayon Pulp factory near Bhavanisagar and a paper factory at Mettur utilising the bamboo wealth of the Bhavanisagar-Mettur region. A huge soda ash plant is being established in Tirunelveli district. A new cement factory at Ramanathapuram is expected to be started in the near future. Three co-operative sugar factories with Government share capital are expected to go into production in the middle of 1959.

Small Scale Industries.

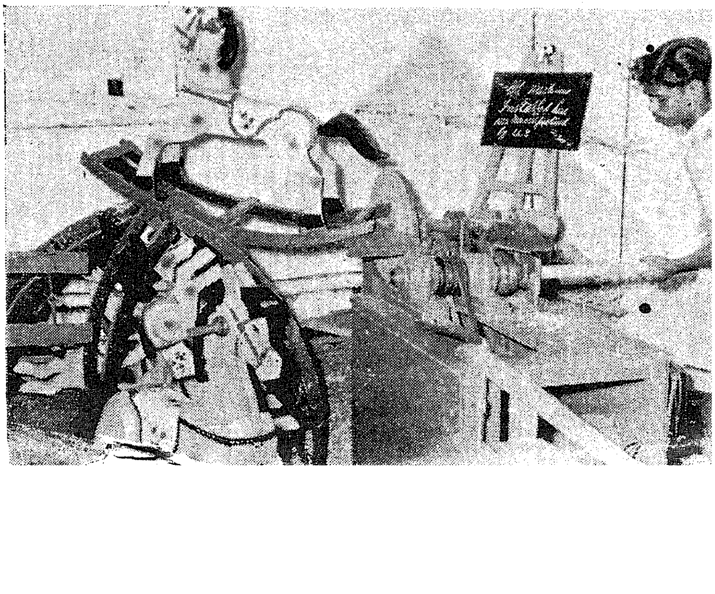
The development of small scale industries is an important factor of economy for the wide distribution of both economic activities and advantages. Without draining the internal resources, it will provide more employment opportunities. With this end in view, a number of model training, servicing and production centres, technical information section, servicing corporation for supply of raw materials and industrial estates for providing factory space have been started. The Industrial Estate at Guindy constructed at a cost of Rs. 70·03 lakhs has accommodated a number of small scale industries both under private and the public sector. Another estate at Virudhunagar is under construction at a cost of Rs. 28·49 lakhs. Also industrial colonies at Tirunelveli, Tiruchirappalli, Madurai, Tanjore and Marthandam are being set up.

Village Industries.

Schemes for the development of village industries, utilising the raw materials and idle labour available in villages, are being implemented with a view to make the villages self-sufficient in regard to their daily requirements such as handpounded rice, oil, honey and pottery, etc.

(*Continued on page 40*)

Small Industrialists are given every aid and facilities to carry on the trade with profit.



INDUSTRIAL Relations

SRI V. BALASUNDRAM, I.A.S.,
Commissioner of Labour and Director of Employment

The settlement of industrial disputes and maintenance of industrial peace form the main functions of the Labour Department. The first progressive measure calculated to improve industrial relations between the employers and the workers with a view to maintaining industrial peace is contained in the Industrial Disputes Act, 1947. This Act has undergone a series of amendments in order to improve the machinery for the settlement of industrial disputes and to confer additional benefits on the workers. The amendment Acts of 1955, 1956 and 1957 have introduced more important changes in this Act. The Act now provides for the investigation and settlement of industrial disputes through the medium of Works Committees at the level of the factory, through conciliation by Labour Officers, through voluntary reference of disputes for arbitration, and through adjudication by a three tier system of adjudication machinery, viz., Labour Courts, Tribunals and National Tribunals. The other important provisions of the Act are the provisions for giving prior notice to workmen of any change in conditions of service, recognition of settlements arrived at between the parties otherwise than in the course of conciliation proceedings, payment of compensation for involuntary unemployment, retrenchment and closure, priority for re-employment of retrenched workers, quick recovery of moneys due to workers under awards, settlements or by way of compensation, etc.

The causes of trade disputes are many and varied, but broadly speaking they arise over rates of wages, hours of work, leave, bonus, and other conditions of employment and often also over questions of dismissal, retrenchment, and victimisation of workers. Refusal of employers to recognise unions of their employees, the demand for " closed-shop " and participation in management by the workers and strikes and lockouts are among other causes of industrial unrest. The last mentioned are particularly important because they affect not only the employers and the workers but also the general public.

In India, as in other advanced countries, the State has, to a considerable extent, intervened by means of legislation and administrative orders for regulating the conditions of employment of industrial workers. But there are still many problems concerning conditions of employment of workers which are outside the purview of the existing enactments and must consequently be settled between employers and workers or between their respective organisations. Experience, however, has shown that their relations are so delicately balanced that they do not always see eye to eye with each other.

It is generally recognised that the prevention and settlement of industrial disputes and the establishment of peace and prosperity in industry depend upon harmonius industrial relations. Increasing industrialisation after the Second World War has accentuated the significance of the problem, especially in this country which has practically completed one phase of industrialisation under the First Five-Year Plan and has entered a new phase in the Second Plan.

While it is the policy of the Government to encourage settlement of industrial disputes by direct negotiations between the parties concerned, of late demands for adjudication rather than for setttlement mediation and conciliation have become too common, among the parties concerned. Despite this tendency, however, the State Labour machinery has been of immeasurable utility in maintaining industrial peace.

The need for a strong and healthy trade union movement has been recognised as essential for the achievement of industrial democracy. But it is unfortunate that trade unions, except for a few, are not organised on proper lines. Lack of experience in organisational work, inadequate leadership and fear of victimisation have, to a very great extent, retarded trade unionism. Also, some employers favour or even indirectly sponsor rival unions with a view to disrupting the unity and solidarity of the workers. Despite these unhealthy factors, however, the trade union movement in this State has been a

Board was giver
Department ... factor in influencing labour conditions and policy. Important trade unions and their leaders are generally consulted by the State Government in regard to vital labour problems. They are also represented on committees and conferences convened by Government from time to time.

The Trade Unions Act provides for the registration of trade unions and defines the law relating to registered trade unions. It grants immunity to the officers and members of registered trade unions against criminal proceedings in respect of agreements for purpose of furthering any legal objects of the union. The number of registered trade unions at the beginning of the year 1958 was 774. During the period 1st January to 31st December 1958, 216 new unions were registered. A total number of 911 unions were functioning at the end of 1958.

The existence of rival trade unions within the same establishment or industry has affected the good relations among the workers and employers. The Government have been considering proposals for mitigating this evil. This subject came up for discussion at the meeting of the Indian Labour Conference held in May 1958, as the result of which some basic principles have been agreed to be observed by the Central Organisations.

The Employers' Organisations, on the other hand, are generally well organised, especially in the principal industries like cotton textiles, tea plantations, etc., and are able to represent their points of view on labour matters satisfactorily.

The Industrial Disputes Act requires the establishments employing 100 or more workers to constitute Works Committees consisting of representatives of employers and employees, the former being nominated by the management and the latter being elected by the workers employed in the establishment. Such Works Committees are expected to meet as often as possible to discuss the grievances of the workers. The Government have been emphasising the importance of the Works Committees for promoting good understanding and relations between labour and management. At the beginning of the year 1958 Works Committees were functioning in 335 establishments in this State.

The Conciliation Officers have been endeavouring to secure an amicable settlement of industrial disputes to the maximum extent possible. It is gratifying to note that as many as 714 industrial disputes were settled by the Conciliation Officers during the year 1958. Besides these, 10,217 industrial disputes and complaints relating to demands for reinstatement of discharged workers, increase in rates of wages, fixed hours of work, retrenchment compensation, leave facilities, etc., were also investigated by the Labour Officers during the period. There were 254 strikes and lockouts during the year. Strikes were called off in 43 cases as a result of mutual negotiations, in 138 cases through the intervention of the Labour Officers and in 6 cases as a result of adjudication during the same period. In 63 cases workers resumed work voluntarily. The other cases were pending at the end of the year.

Among the important settlements affecting a very large number of workmen brought about by conciliation during 1958 mention may be made about the settlement in July 1958 between the management of the B. & C Mills and Madras Labour Union in respect of the additional bonus for the years 1955, 1956 and 1957; the settlement in October 1958 between the managements of Burmah Shell, S.V.O.C. and Caltex (India), Limited and their employees represented by their respective unions regarding bonus for the year 1957, wages, overtime, etc.; three settlements in respect of disputes of plantation workers in the State, viz., one regarding bonus for the years 1952 to 1956, another regarding wages, gratuity, bonus, festival holidays to plantation workers in the Kanyakumari district and the third relating to the abolition of the maistries' system and the absorption of resident maistries normally doing supervisory work and revision of their wages; and the settlement between the management and the employees of the Express Newspapers, Limited, regarding the reinstatement of certain retrenched employees, grant of increase in basic wage, etc.

Compulsory adjudication is resorted to in appropriate cases where the disputes cannot be settled by conciliation. The adjudication machinery was reorganised last year in pursuance of the provisions of the Industrial Disputes (Amendment and Miscellaneous Provisions) Act, 1956. A retired Judge of the High Court has been appointed as the Industrial Tribunal with headquarters at Madras and three Labour Courts at Madras, Coimbatore and Madurai with a District Judge as the Presiding Officer of each Court. During the year 1958, the Government referred 366 industrial disputes for adjudication, 76 to the Industrial Tribunal and 290 to the Labour Courts. The Industrial Tribunal and the Labour Courts gave awards in 350 cases. They also disposed of 76 applications under section 33-A of the Industrial Disputes Act, relating to alterations in conditions of service or dismissals during the pendency of adjudication proceedings, during the period.

With a view to securing effective implementation of the awards, the Government sanctioned prosecution against three industrial establishments under section 29 of the Industrial Disputes Act, during the year 1958.

In pursuance of the recommendations of the Standing Labour Committee, the Government of India have set up an Evaluation and Implementation Division in the Ministry of Labour to assess the extent of non-implementation of labour laws, awards, etc., and to evaluate the results achieved by such measures. Detailed particulars of cases of non-implementation or partial or defective implementation of awards are being gathered every quarter from the departmental officers as well as important trade union organisations for submission to the Evaluation and Implementation Unit. Although cases of non-implementation of awards, settlements, etc., are not many in this State, the constitution of a similar committee at the State level is under the consideration of Government. The representation on this committee will be given to the central trade unions organisations and important employers' organisations in this State.

(Continued on page 56)

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Public Works A nation Building Department

Sri J. G. ABRAHAM,
Chief Engineer (General), Public Works Department.

The Public Works Department of the Madras State is over a hundred years old. From very remote times, long before the advent of British Rule in India, the importance of 'Public Works' in the Development of the Country had been recognized by the successive authorities (Princes and other Rulers), but those early works were confined to artificial irrigation (such as channels taken off from rivers, tanks and reservoirs for storing rain water, etc.) to aid cultivation—agriculture being then as it is still now, the mainstay of the country's economy. But there was no organized department as such for carrying out those works. Land Revenue being the main source of income to the Government and that being directly and intimately dependant on agriculture (cultivation of land) irrigation works naturally received a very large share of the attention of the rulers of the day, so much so, the number of such works became very large—scattered all over the country. At the time of the advent of British Rule in India under the East India Company, the Madras Presidency (one of the three main territorial administrative units into which the country was then divided by the British authorities—the other two being Bengal and Bombay) with the exception of the West Coast districts of Canara and Malabar, had a number of irrigation works of the kind mentioned above and these were attended to by the Revenue Officers, as was the case in other parts of the country in general. Even during the tumultuous and disturbed times which immediately preceded the introduction of British rule in the Carnatic (as the area was then known) the duties entrusted to the Revenue Officers in regard to the irrigation works as aforesaid, were not wholly omitted, though many fine works suffered for lack of sufficient attention.

The early English Collectors necessarily assumed charge of the works of Irrigation along with that of collecting revenue; and as it was realized that it was essential to the security of the revenue that those works should not be neglected, large sums were also expended in keeping them in sufficient repair. But being without any professional (technical) assistance whatever—there being no Engineering department then under the Civil administration, the Collectors were compelled to entrust the expenditure to Subordinate Revenue Officers, as in the past, but as those officers had neither technical or scientific knowledge, nor any practical experience in such works, the arrangement was not satisfactory. In course of time such a state of things attracted the attention of higher authorities and for the first time *Engineer Officers* were appointed under the title of "Superintendent of Tank Repairs" to assist the Collectors in that branch of their duty. There was at first only one such Superintendent and a second was added in the year 1809, the principal irrigated districts of the Presidency being divided between the two. By that time the subject had become considerably important and therefore, it attracted the special notice of the Court of Directors of the East India Company. As a result, in 1819, the Presidency (excluding Canara and Malabar districts) was divided into three public works divisions each with a "Civil Engineer", the whole being placed under the Control of an Engineer Officer at the Presidency Headquarters styled the "Inspector-General of Civil Estimates" who was to be the channel of communication between the Revenue and Engineer Officers in the districts and the Board of Revenue. In 1825, the whole Public Works Organization, as it then existed and which was then popularly known as the 'Maramut' Department, with all the Civil Engineers, including the Inspector-General of Civil Estimates, was placed under the Board of Revenue.

It may be observed that the Maramut or Public Works Department as outlined above, was mainly an Irrigation Department controlled by the Revenue authorities. The duty of constructing, repairing and maintaining Civil buildings throughout the Presidency was all the while entrusted to "Superintending Engineers" who were *Military Engineers* controlled by a Military Board with a Chief (Military) Engineer at the top. Even the Civil Engineers of Maramut Department then belonged to the Military Engineer Crops, as there was no separate Civil Engineering Cadre at the time. In 1836, the post of Inspector-General of Civil Estimates was abolished and a post of Secretary to the Board of Revenue in the Department of Public Works (Maramut) was created to attend to all the administrative duties previously performed by the Inspector-General of Civil Estimates. In the same year, the Chief Engineer of the Military-

Board was given a seat at the Board of Revenue in the Department of Public Works to enable him to exercise necessary technical control over the Civil Engineers (who were at the time members of the Military Engineer Corps as already mentioned above) and also to give the Civil Maramut Department the benefit and advantage of his experience and guidance.

In 1838 a still more important change was effected. In four out of the five divisions of the Army, the appointment of Superintending or Military Engineers was abolished and the whole Presidency was rearranged to form eight Maramut Divisions each under a Civil Engineer. At the same time, the duty of constructing and repairing Civil Buildings in the Presidency which had hitherto been under the Military Superintending Engineers was transferred to the Civil Engineers and the Collectors under the Revenue Board, while the custody of Military buildings (previously vested in the Military Superintending Engineer) was transferred to the Station Staff Officer and it was provided that when repairs or other works to Military buildings in their divisions were required, the Civil Engineers should give their assistance to the Military Department as far as possible. With the introduction of this change, the position regarding public works in the Madras Presidency at the time, i.e., in 1838, was that they were carried on under the following three distinct and independent departments:—

(i) The Public Works Department of the Board of Revenue.

(ii) The Superintendent of Roads.

(iii) The Military Board.

The Board of Revenue (Public Works Department) had the control of all irrigation works, all Civil Buildings in the districts and all roads and bridges not included in the 'Trunk Roads' or in Military Cantonments, and all Canals, etc.

The Superintendent of Roads had the sole control and superintendence of the great lines of communication which have been classed under the term 'Trunk Roads'.

The Military Board had the superintendence of the construction, repairs and maintenance of fortifications, of all public buildings both Military and Civil as also all the Government roads and bridges at the Presidency Headquarters, and all the military buildings and forts in the districts together with all roads and bridges, etc., in Military Cantonments.

This arrangement continued till 1850 when, under instructions from the Court of Directors of the East India Company, to the Government of India, a Commission was appointed in 1851 to enquire into and report on the system of Public Works in the Madras Presidency. The Commission accordingly went into the question in great detail and submitted its report in 1852. One of the most important recommendations made by the Commission was that the control of the Maramut (Public Works) Department, which had by then considerably expanded, should be transferred from the Board of Revenue to a separate Board consisting of two Engineer Officers and a member of the Civil Service, that the functions of the various branches or departments of Public Works should preferably be unified and that each district should have a District Engineer with a number of Inspecting Officers above them. The British Home Government in England agreed to separate the Maramut Department from the Board of Revenue, but did not accept the suggestion for the creation of a new Board of Public Works. It was decided instead to vest the control of the department in a Chief Engineer assisted by three Deputies with a geographical division of duty. The Government thereupon appointed a Chief Engineer and directed him to prepare a scale of establishment adapted to the requirements of the country and capable of undertaking all the duties, including execution, of the department. With reference to the proposals submitted by the Chief Engineer, an organization consisting of the Chief Engineer, three Deputy Chief Engineers in charge of three territorial circles and 21 District Engineers under them at the rate of one for each Collector's district, was sanctioned and that set up started functioning in full from 1858. But in 1860 the efficiency of the new organization and the expediency of reverting more or less to the former system were considered by Government and pending further measures the Chief Engineer was also appointed as Secretary to Government in the Public Works Department (the two offices being combined) and the three Deputy Chief Engineers were temporarily vested with the powers of the Chief Engineer in their respective circles. In 1863, a Committee was appointed to examine the question of the organization of the department afresh and that Committee recommended the abolition of the posts of Deputy Chief Engineers and District Engineers and to create eight Superintending Engineers' Divisions for the entire Presidency with a suitable number of Executive Ranges under them. Accordingly, the District Engineer system was abolished in 1863 and a new set up with eight Superintending Engineers' Divisions and some 80 to 90 Executive Ranges of Public Works under them was brought into force from that year.

In 1870, another Commission was appointed to go into the question of the organization of the Public Works Department. That Commission recommended reversion to the older system of District Engineers. Accordingly, the Presidency was divided into twenty-one District Engineers' charges with two Chief Engineers at the top. This continued till 1878 when once again the District Engineer system was abolished and instead, the entire Presidency was divided into five Public Works Department Circles each under a Superintending Engineer with a total number of thirty-nine Executive Engineers' Divisions under them. The very next year (1879), however, as a consequence of the financial pressure resulting from famine and the Afghan War, the Government of India ordered that the Public Works establishment throughout India should be reduced by one-fourth and accordingly in Madras the number of Public Works Department Circles and Divisions was reduced to 3 and 29 respectively. But as a result of the correspondence that took place subsequently during the years 1879 to 1881 between the

Government of Madras and the Government of India, a scheme was finally sanctioned in 1881, according to which the department was reconstituted with two Chief Engineers at the top—one for Buildings and Roads, who was also to function as Secretary to Government, Public Works Department, and the other for Irrigation, who was to function also as Joint Secretary to Government, Public Works Department—with six circles, each under a Superintending Engineer, 24 divisions, each under an Executive Engineer and a number of sub-divisions and sections under them. This set up continued more or less without any material change except that the establishments were strengthened from time to time according to needs (especially after 1906 when the 'Davidson' Committee on Establishments had recommended alround strengthening of staff) till about 1924, when the two Chief Engineers were divested of their functions as Secretaries to Government and they were left to function as purely technical heads of their respective branches.

The subsequent history of the department has been eventful in many ways, but the predominant note is one of alround development, in spite of the reduction in the territorial area of the Madras State. Between the years 1930 and 1956, there had been a number of important changes affecting the organization of the department. The formation of the Orissa Province in 1933 first reduced the extent of the territorial jurisdiction of the Madras Presidency as it then existed and the Public Works Department also correspondingly got reduced. Next came the formation of the Andhra State in October 1953 and then the general States Reorganization of November 1956 resulting in further reduction in the extent of the territorial area of the State and consequently, of the jurisdiction of the Public Works Department. But the activities of the department, except during a short period in the early thirties (when there was a general depression necessitating retrenchment of establishment) continued to expand.

In the initial stages of Hydro-Electric Power Development in this State, there was a small nucleus of staff on the Electrical side with a part-time Consulting Engineer (Electricity), as part of the regular Public Works Department. Later on, when the activities on that side developed and expanded, a separate Electricity Branch with a full-time Chief Engineer and other staff was formed and in course of time that branch further expanded and eventually it has been formed into an autonomous Electricity Board and it is functioning as such from 1st July 1957.

Prior to the formation of a separate Central Public Works Department, the Madras Public Works Department was executing all building works in the State required by the Government of India. The period of the Second World War (1939–1945) was one in which the Madras Public Works Department was kept very busy as it was in charge of the construction of aerodromes, landing strips and a variety of other 'Defence' works, including Civil Defence (A.R.P.) works. There was a special A.R.P. and Aerodromes Circle for the purpose under the Chief Engineer, Public Works Department, who was then designated as Chief Engineer (Buildings and Defence). As 'Communications' was also of vital importance during the war period, the expansion and improvement of roads and bridges of all kinds became necessary and therefore, special roads (Communication) Circles were formed first under the Chief Engineer, Public Works Department (Buildings and Roads), and later under a separate Chief Engineer (Communications). In 1946 a separate Highways Branch was formed with a Chief Engineer in exclusive charge and necessary Superintending Engineers and other executive staff under him for attending to road and bridge works throughout the State. The old District Board Engineering staff was merged with the staff of the Highways branch. That set up has continued ever since.

Under the existing set up, the regular Public Works Department (Buildings and Irrigation Branches), is under the direction of two Chief Engineers. One of them is exclusively for irrigation and is, therefore designated as Chief Engineer (Irrigation). The other is in charge of buildings and administrative matters including establishment and is designated as Chief Engineer (General and Buildings). He is also in charge of the Boiler Department, the State Broadcasting Department, the Electrical Engineer's (General) Division and the Sanitary and Public Health Engineering Branch. Each of the two Chief Engineers is the Head of a Department and is the Professional (Technical) Adviser to Government in all matters falling within his jurisdiction. They are at present assisted by two Deputy Chief Engineers each, who are of [redacted] Executive Engineers. There is a Consulting Architect attached to the Office of the Chief Engineer (Buildings). He prepares the plans and estimates for the several building works with the aid of Special Staff under him and in this regard he functions as the Specialist Assistant of the Chief Engineer.

There are now four *regular* permanent Public Works Department Circles each under a Superintending Engineer with some 17 Executive Engineers, 7[illegible] Assistant Engineers and 240 Section Officers. These circles are "Common Circles", i.e., these are in charge of both Irrigation and Building works.

There are the following *Special* Circles also now:—

(i) Designs Circle (in charge of Irrigation Research and Designs, Soil Mechanics and Concrete Laboratories, Gaugings Division, etc.).

(ii) Projects Circle, Tiruchirappalli (for Kattalai and Pullambadi Schemes).

(iii) Special Buildings Circle (for execution of Major Building Schemes under the Five-Year Plan).

(iv) Public Health Circle (for the execution of Major Water-Supply and Drainage Schemes).

(v) Food Production Circle (for Restoration of Tanks and Special Minor Irrigation Works under the control of the Board of Revenue).

The Sanitary Engineer who is of the rank of Superintending Engineer is functioning under the control of the Chief Engineer (General and Buildings) and he is attending to the investigation and design of

Water-Supply and Drainage Schemes. He is also the immediate Controlling Officer in respect of Municipal Engineers.

The Public Works Department is a *Nation Building Department*, and its activities and achievements reflect the progress and development of most of the other departments under Government, and therefore, of the State as a whole. This is so, because the Public Works Department has virtually no separate entity of its own so far as its main functions are concerned, as it is made up and is representative of, the sum total of the building and other construction activities pertaining to the various departments of the State Government. The normal activities of the Public Works Department, therefore, consist of the activities of all other departments so far as Civil Engineering works are concerned. This all important fact is not realized by many, so much so, the Public Works Department is often unjustly criticised and dubbed as a spendthrift department. When a member of the public (the ' common man ') sees a fine hospital or an imposing Government College or other Educational Institution, he is apt to praise the Medical or the Educational Department for having provided such beautiful institution by way of public welfare amenities. Similarly, when a village agriculturist feels happy on account of his getting copious water-supply for raising his crops as a result of a major irrigation project, he is apt to attribute his good fortune to the Agriculture or Revenue Departments. But the department or the organization, viz., the Public Works Department, which is responsible for the actual construction of that hospital, the college and the irrigation project and many such public utility items throughout the State, is hardly ever thought of or remembered by these persons.

The Madras Public Works Department has a proud record of achievements to its credit. The total capital cost of the Government buildings constructed and maintained in the State by the Public Works Department is now *about Rs. 14 crores.* These include such important buildings as the General and Stanley Hospitals, Madras, the Erskine Hospital and Medical College, Madurai, the College of Technology and the Agricultural College, Coimbatore, to mention only a few. A mere perusal of these lists and charts will, however, hardly give a correct idea of the work done by the Officers of the Department. Almost every major construction work—particularly the irrigation projects—has a history of its own—about difficulties met with and solved with patience and perseverance. This cannot be better illustrated than by citing the case of the Periyar Project—the history of which is an Engineering ' Saga ' in itself, as may be seen from the details given in the book—" History of the Periyar Project " written by Mr. A. T. Mackenzie, one of the Madras Engineers who helped to execute that project, which was started in 1887 and completed and put into operation by the end of 1895 and which has been acclaimed as the boldest and most interesting irrigation project in the whole of India, and perhaps in the whole world, by its unique features. The Periyar River has its source in the Western Ghats whence it flows westwards through Travancore. The Madras Engineers constructed an immense dam (of concrete with a masonry facing) about 175 feet high and a reservoir of about 9,800 million cubic feet capacity across an almost inaccessible gorge in Travancore; and by means of a tunnel some 5,700 feet long, diverted the waters of the river from the Western to the Eastern Ghats, i.e., literally making the river flow in the opposite direction from its natural course. The site of the works was an unhealthy jungle 3,000 feet in elevation where rain and malaria rendered works impossible for a considerable portion of the year, where even unskilled labour was unobtainable and to which every sort of plant and nearly all material had to be transported at great cost from a railway 76 miles off and up a steep ghat road. The difficulty of laying the foundations for a dam in a river of such magnitude as the Periyar (the discharge velocity of which was calculated at the time as equal to half the average flow of Niagara and which was liable to sudden and heavy freshes as high as 120,000 cusecs) can very well be imagined, and in the beginning the work was swept away again and again. But the indomitable energy, resourcefulness and determination of Col. Pennycuick, the Engineer who finalised the proposals and supervised the execution of the work, and who refused to accept defeat, won through and a great project an engineering masterpiece, was completed. But in the process several persons, officers and workers—had to sacrifice their lives—the extremely difficult jungle conditions taking their toll. But no one gave up and the result was a magnificient project providing irrigation facilities for an area of nearly 143,000 acres in Madurai district as compared with 66,000 acres in the same area before the reservoir project was executed.

Hardships and difficulties have been encountered though not to the same extent and successfully overcome in other irrigation projects also by our Engineers following the inspiring example set up by Col. Pannycuick and his brave band of officers and subordinates. Another illustrious and inspiring name in the history of Madras Public Works Department is that of Sir Arthur Cotton who will ever be remembered for the unique and lasting improvements effected by him in the several irrigation systems—particularly those of the Cauvery, Godavari and Krishna—the benefits of which are even now continuing unabated.

The vital role of Engineers in the development of the nation and especially in the creation of a welfare State, has been stressed again and again by our Prime Minister and also by many other important persons. The Madras Engineers have established a very high tradition for efficiency and they have also earned a just reputation for such efficiency, combined with intelligence, zeal and a steady devotion to duty, so much so, their services are very much in demand by other States particularly in North India, and the Central Government organizations and even by foreign administrations. The services of Engineer Officers of the Madras Public Works Department have been obtained and made use of by the Punjab Government in their Bhakra-Nangal Project by the Bihar Government in their Kosi Project

(*Continued on page* 87)

The Villager at the Helm

SRI M. G. RAJA RAM,
Additional Development Commissioner.

The long drawn out struggle for Independence of the Indian people besides culminating in liberation from the foreign yoke also resulted in the generation of a tremendous energy to live a free life of higher standards and happiness. It was a logical process by which a passionate desire to create conditions for a healthier and happier living crystallized. However, to channelize this tremendous energy towards the fulfilment of cherished desires is a great task. No doubt in the past few decades quite a few urban areas became prosperous. Trade and commerce flourished and production also was there in fair abundance. But the people living in these cities and towns were quite content to revel in the glory of their big buildings, broad roads and neon signs. Little did they realize that the people who actually toiled for the prosperity was the villager. The villager was looked upon as a country bumpkin to be dealt with at a distance. The villager on the other hand looked with awe and admiration at the cities and towns and the neon signs and envied the revelling people and their life there. Little did he realize that he was the main contributing factor for the prosperity of these towns and cities. He was timid and considered the gap between himself and the city bird as something inevitable—ordained by fate. His toil in the land to increase production while directly benefiting the towns and cities did not have much of an impact on the large community in the villages themselves. Indeed strangely enough it even produced an urge to drift towards the cities and to misery.

With the advent of Independence therefore the Nation's planner quite rightly sought in the first instance to initiate the process of transformation of the social and economic life of the villages. This was included as one of the main objects of the First Five-Year Plan. Obviously, this will have to continue to be so, in all the Five-Year Plans to come—at any rate for quite some time. The village people should get first the benefits of improved knowledge and technical skill and for this purpose the resources of the Government should be made to flow to them first to be utilized for their economic and social uplift. How is this to be done? Obviously, there should be a permanent extension agency at the village level through which the improved knowledge, technical skill and resources of the Government can be channelized. The Community Development Programme launched in the country over six years ago was in effect the programme to achieve this object. The Block with a population between 70,000 to 80,000 covering roughly 60 to 80 villages on an average is to be the unit for planning and development. The development activities of all the Welfare departments of the Government at various levels, viz., State, district, block and village, have to be co-ordinated effectively and for this purpose the extension agency was evolved. In order to enable the villagers to assume the responsibility for their development through their own resources they have to be trained to become self-reliant and co-operative. The increasing demands for assistance from them are far beyond the capacity of a Government to fulfill. Therefore it becomes a vital necessity to build up people's institutions functioning on democratic principles and to which power and responsibility should be transferred. Government assistance can only be confined to the provision of technical assistance and such financial help as is possible. Utilizing the technical assistance and financial help it should be left to the people themselves to think out their own programme of advancement, and what more its execution also. What are such institutions that should be developed in the village? Our object is to enable a free democratic growth of village leadership who should be in charge of the village institutions. Such institutions are the village panchayat and the village co-operative. These two should work hand in hand. In addition to these the village school also will pay a vital role. Towards this purpose the Nation's planners have been making strongest appeal to provide the foundation for a democratic structure in the shape of village institutions which would enable the village community to exercise their rights as free democratic citizens. Every village panchayat should function as a chota republic. This in turn would provide the Nation a really effective functional democracy and it will also provide a broad base for survival of the democratic structure at the top.

In order to enable the village community to assume full responsibility and take the initiative in their own hands, everything possible should be done for the village community to throw up leaders. These leaders besides being encouraged to come up should also be educated in the art of self-reliance and a co-operated way of thinking. This will facilitate them to understand their obligations to society and function effectively. The Ministry of Community Development in keeping with the objectives mentioned above have evolved the under-mentioned schemes of training of personnel.

1. *Village level*—

(*a*) Training of functional village leaders or gram sahayaks;

(*b*) training of presidents and members of village panchayats; and

(*c*) training of panchayat secretaries.

2. *Block level*—

(*a*) Training of Block Extension Officers (Panchayats); and

(*b*) training of non-official members of the Block Development Committees.

3. *District level*—

Training of District Panchayat Officers.

Gram Sahayak Training.—There is already a scheme in operation for training of Gram Sahayaks (functional village leaders). The pattern of this training briefly is that for every V.L.W. circle the training camp is held with about 50 gram sahayaks drawn from each of the villages in the circle. Training is imparted for full three days by the Block staff under the guidance of district level technical officers. The subjects of the Community Development Programme have been divided into five groups as under:—

(*a*) Agriculture, Animal Husbandry and Minor Irrigation;

(*b*) Panchayats, Co-operation and Village Communication;

(*c*) Rural Housing and Village Industries;

(*d*) Education, Social Education, Public Health and Sanitation;

(*e*) Women and Children's Programme.

In view of the importance of increasing agricultural production the first group of subjects has been taken up in the first year, i.e., 1957–58. During this year 14,772 camps of gram sahayaks were held at which 594,701 gram sahayaks were trained in the agriculture group of subjects in the country. In Madras State 1,236 camps were held at which 61,990 gram sahayaks were trained (till 30th November 1958). The second round of these camps on the same subject is being continued. In these camps the village leaders having the knowledge and experience and interest in agriculture are given an idea of the latest methods of agriculture. The use of improved seeds and implements are demonstrated to them in a practical way. Practical demonstration is also given in the development of organic manurial resources. The trainees themselves dig and prepare compost pits. Having learnt the improved methods of agriculture themselves they will go back to their villages and disseminate their new knowledge and techniques to their brethren and associates in the villages. They act like 'improved seeds of the human variety' who are expected to multiply and spread to full saturation level in the villages much the same way as the improved seeds of crops do even now through the village seed farms.

Training of presidents and members of panchayats.—Orientation training will be provided to presidents and members of the village panchayats in camps organized on similar lines as for the gram sahayaks training. Particular emphasis will be given to the necessity to assume power and responsibility in running their panchayats. With the passing of the new Madras Panchayat Act, 1958, it is a vital necessity for the panchayats and their leaders to know how they should function and decide the line of action for their advancement utilizing the financial provision and technical assistance made available to them by Government. The Block staff will be attached *in toto* as executive functionaries at the Panchayat Union level whose jurisdiction will be co-extensive with that of an Extension Block. The Block Development Officer will be the Commissioner for the Panchayat Union. He, along with his Extension Officers will carry out the mandates of the Panchayat Union Council. The District Officers will provide them the technical guidance and supervision.

Training of Panchayat Secretaries (Executive Officers).—This will be an institutional one extending over a period of about three months (2½ months at the training centre and half a month in the field). The proposal is to establish one training centre for each district. The object of this training will be to educate the Panchayat Secretaries in the proper method of discharging their responsibilities to the panchayats they serve and enable them (panchayats) to discharge their obligations in turn to the people who have elected them.

Training of Block Extension Officers.—This training will consist of both 'job training' and 'orientation training'. The orientation training will be arranged by the Ministry of Community Development at its existing training centres for Block Extension Officers. The job training will mainly consist of instructions on the State Panchayat Act and Rules and Regulations framed thereunder. The officers at the State and district level will be in charge of this programme.

For achieving some uniformity of approach in panchayat work through the job training the Ministry has proposed to bring together the State Panchayat officials at the State level for a short orientation camp and joint discussions of the problems. They will also evolve the methods of imparting this training to the Extension Officers in Panchayats.

Training of non-official members of the Block Development Committee.—This training is envisaged to be in two parts. Part I would be training in approach and attitude, general awareness and rights and responsibilities. It will be a seven days' camp where about half the time will be devoted to talks and discussions by different instructors, and visiting lecturers; the other half would be devoted to field visits, practical demonstrations, etc. Part II is meant to be a subject-matter training and a continuous process. It is the intention to entrust the responsibility for this programme, as far as possible, to non-official voluntary organizations—education, social service and others who have the requisite facilities and also the experience for the purpose. It has been estimated that the non-official members will be in the region of 150,000 when the whole country is covered under the Community Development Programme. For Madras it will be roughly about 18,000. In view of the magnitude of this programme and also the availability of the trainees only during off-seasons, it is proposed to have

(*Continued on page 67*)

Linguistics and Tamil

SRI T. P. MEENAKSHISUNDARAM.

Linguistics is the science of language. Though she is the latest to join the charmed circle of sciences in the West, she is really as old as Panini and Tholkappiar in India. It is the study of Panini in the West that in the last century ushered in this science. Panini and Tolkappiar dealt with living languages as spoken by men around them. But the nineteenth century had such a contempt for the spoken tongue that it always looked upon the book as the authority; the more dead the language the better. Its pre-occupation with the language of the past gave us the conception of history of these languages, thanks to the prevailing atmosphere of Darwinism and the recognition of the inter-relationship amongst the languages of the West and the Sanskrit. The historical and co-operative method at the hands of Dr. Caldwell, nearly a century back, brought out the existence and importance of the Dravidian family of language. The scientific spirit which was in the air inspired the scholars perhaps over-enthusiastically to speak of sound laws. But there were always irregularities and the age of democracy which was dawning then, drove them to the study of the spoken dialects which sometimes explained, as it were, these irregularities by giving the missing links in the law or theory. Dialects —their location, their dispersal, their decay, their contact and mutual influence with the improvements of the method of such studies—have developed into the Science of Dialect Geography. The linguistic survey of India judged by the standards of the time of its production, was perhaps the best and the most extensive as covering the great sub-continent of India. Unfortunately, though there is a volume on the Munda and the Dravidian languages, their dialects are not studied in detail.

The twentieth century, the century of the child, has brought to the forefront the problem of teaching languages especially the problem of teaching the standard language without at the same time hurting their self-respect and their democratic spirit to these children, from regions and communities who, because of their isolation within their dialects had not known the standard. An analysis of the structure of the language for this purpose, a comparative knowledge of the structure of the dialect of the child and the standard language to be taught, as distinguished from the orthodox grammars and as correlated to the psychology of the child learning was found necessary. In the Global wars when distance was annihilated and the one world idea gradually arose, along with international contacts, there arose for some at least in the embassy, in the trade and in the army when the soldiers were sent to distant lands speaking foreign languages, the necessity for learning to speak foreign languages without tears and without waste of time. The multi-lingual countries like India, Russia and America brought in the problem of studying more languages than one. In this century, America slowly came to assume greater importance. That continent had, from early times, the Red Indians with their unrecorded languages; and American linguists, naturally interested in the study of these languages, laid the emphasis on the spoken tongue. The part played by the Missionaries in the study of the dialects of the Dark Continent of Africa and other parts of the world really laid the foundation for a scientific study of phonetics—the science of speech sounds, of phonemics—the science of the significant sounds in the languages and graphemics—the science of devising the writing system for any language especially the unrecorded one, so important when the script reform is in the air. The old study of etymology gave room for the scientific and objective study of morphemics and syntax. Semantics or the science of meaning and stylistics have been neglected because as yet they have not been amenable to an objective study.

No longer do people start with some pet theories as some word like sul or the demonstrative particles being the basis of all words and proceed to explain all words on this preconceived theory introducing all kinds of changes according to their sweet whims and fancies as though the consonants counted for nothing and the vowels had the pliability of their theories. The sounds, words and structure are first studied and this inductive study suggests the uniformities, as in every other science. Every change has to be explained on the basis of well established uniformity found in the language itself. Accidental similarities of words do not count for anything in proving affinities between languages. The uniformity of contrast is much more relevant in this field, for establishing a law of change in the related languages. As a matter of fact, this study of contrasts today rules every sphere linguistics.

This short history brings out the importance of this study in the modern world especially in modern India. The Madras State has made Tamil its State language and this raises the problem of developing an effective language or dialect not only for administrative, legislative and judicial purposes but also for scientific and technological purposes as an effective medium of instruction and expression. The long introduction here given is to point out the developments to be achieved in Tamil in future. We thus avoid the unnecessary problem of distribution of responsibilities for the past neglect so usually charged with emotions. Not the past but the future is what counts. This gives us a picture of the future plan to be laid out in detail and an idea of the required effort and enthusiasm. The Madras Government realizing the importance has not only during the vacation but also when the college was working sent its Chief Professor of Tamil in the Presidency College to co-operate with the Five-Year Linguistic Project of the Deccan College at Poona, inaugurated by Sir Ralph Turner in May 1953, thanks to a grant from the Rockefeller Foundation of New York. The project is coming to an end with this year. It has held every year Summer Schools and Autumn Seminars at Poona, Dehra Dun, Annamalainagar and Mysore to which Tamil students were taken by the Chief Professor of Tamil for linguistic training. These students started with a knowledge of two different families of languages—their greater familiarity with English and Hindi—in addition to their knowledge of Tamil, created a favourable impression on all. The project had sent two Tamilians for intensive training in linguistics in the universities in United States of America for two years. Year after year, as in other languages, one or two Tamil Masters in Arts had been selected as fellows of the project getting Rs. 250 per month to undergo intensive training in linguistics at Poona, to which come American and British professors to teach linguistics to these fellows. After the period of the project, the Chairman of the University Grants Commission had agreed to meet the expenditure of running the Summer School in 1960 and for the period of the next Five-Year Plan, at his suggestion and on the recommendation of the Conference of the Vice-Chancellors and Linguists organized by the Vice-Chancellor of the Poona University, the Linguistic Society of India appointed a committee to work out the blue-print for the development and organization of linguistic studies in India. The Madras Government permitted its Chief Professor of Tamil to accept the Presidentship of the Linguistic Society of India and to be a member of this Planning Committee. That Madras is taking a keen interest is shown by the fact that Sir A. L. Mudaliar is the leading light of this committee. Under his aegis, the Madras University is providing for the examination at University level in nearly twenty languages of the West and the East, both classical and modern. The Annamalai University is wholeheartedly co-operating in the development of this plan. It has more or less been recognized as the All-India Centre for Dravidian languages and as the All-India Centre in the South for Phonetic Laboratory. The Central Government had, at the time of the celebration of the Silver Jubilee of this University made a handsome grant of three lakhs of rupees for the foundation of a Department of Dravidian Linguistics. Honourable C. Subramaniam, Minister, Government of Madras, inaugurated this department. An expert committee of linguists of all-India importance under the Chairmanship of Dr. Chatterji suggested a programme of work for an Etymological dictionary and other works. A teacher was deputed to the United States of America for intensive training in linguistics for two years, has given a grant of three lakhs and forty-five thousand rupees for this department—buildings and a phonetic laboratory.

The Tamil country has to concentrate on the following, if it has to fall in line with the advanced countries in the world:—

(1) Indexing of the words in all the books in Tamil and all the Tamil inscriptions.

(2) Giving training in linguistics in B.A. and M.A. courses and awarding research degrees in linguistics.

(3) Dialect study—Analysis and description of all the different dialects of Tamil and the dialects of other languages spoken within Madras State.

(4) Preparation of descriptive grammars for the dialects and the classical texts and inscriptions.

(5) Preparation of descriptive grammars of modern spoken Tamil.

(6) Preparation of Historical grammar of Tamil.

(7) Preparation of Historical Dictionary of Tamil.

(8) Preparation of an Etymological Dictionary of Tamil and an Etymological Dictionary of Comparative Dravidian.

(9) Comparative study of Dravidian languages.

(10) Publication of texts on scientific lines, translation of important works in Tamil into English and placing them before the world.

(11) Establishment of a language school with facilities for teaching, from the scratch, the important languages of India and the West on modern lines, through evening classes and through provision in the Graduate and post-Graduate courses. (This is necessary for creating the right kind of atmosphere especially in these days when one's hatred of another's views and linguistic fanaticism unfortunately is turned into an irrational hatred of the language of the other. The school is to be one like the London School of Oriental and African Studies at London and The Foreign Language Institute at Washington D.C.)

(12) Improving the methods of teaching the languages.

There is, in spite of these pressing needs, at present too much of reduplication of work, lack of co-ordination and evaluation and understanding of the facilities available in various places. Our State Government has, therefore, realizing the urgency and importance, have proposed to constitute a Council of Tamil Development and Research and inaugurate it on the next Republic Day. That will be the inauguration of the Republic of Tamil Studies, so important in all walks of modern life in the Tamil land.

TAMIL LITERATURE DOWN THE AGES

SRI R. S. DESIKAN.

Tamil has a rich and noble heritage. She is neither a younger nor an elder sister to Sanskrit. She is coeval with her. Perhaps her hoary antiquity is shrouded in the far-off mists of time. She is old, yet ever young. Time writes no wrinkles on her victorious brow. Her charming and melodious voice rings across ages. We still use the very words that were uttered several centuries ago in the humming, splendid city of Pukar.

'Agastiyam and Tolkappiyam' are ancient treatises on grammar; and from this one may easily infer that there must have existed a glorious body of literature which perhaps perished with the long passage of time. Even our Sangham classics might have sunk into utter oblivion but for the noble, disinterested, strenuous and ceaseless labour of Doctor U. V. Saminatha Iyyer. It is he that has unearthed the hidden and buried treasures of our literature, of which any nation may be legitimately proud.

In the Sangham classics there shines the very well of Tamil undefiled. They mirror a rich civilization almost untroubled by the unquiet thoughts and obstinate questionings of the life to come. Like the Greeks, they revel in the sheer delight of the senses. There is a humanistic approach to literature. They are saturated with and soaked in the infinite book of nature. Even time is marked and measured by the procession of the seasons and the blossoming of buds and the unfolding of flowers. The winds too are named after the directions whence they blow. Their keen observation of nature and their minuteness of detail in their descriptions fill us with wonder.

The dominant features of the Sangham classics are war and love. In 'Kurunthogai' we hear the beloved singing in praise of the majesty and splendour of the love of her lord.

"Vaster than the earth, loftier than the sky and far deeper than the sea is the love of my Lord of the hills."

In the midst of the clang and clash of arms, in the midst of clink and clatter of wine cups, in the midst of the wild dalliance of love, there are heard majestic utterances of some solitary poet--utterances that embrace the whole humanity; but none may deny that music and love-making are the meat and drink of their lives. Too much indulgence in these things has spelt their ruin; and their sensuousness has resulted in unbridled sensuality. Perhaps the decline and fall of a great civilization in Pukar is the outcome of man's excessive delight in the sordid pleasures of the senses. It is Thiruvalluvar that has striven to stem the tide of sensuality that set in. He is a great reformer of a very high order; and his lofty ethical standards recall to us Christ's Sermon on the Mount.

The spirit of poetry which the Sangham classics breathe has an elusive charm of its own. It does not attempt either at alliteration or rhyme. It has a subtle harmony and an ineffable cadence, which a trained ear and highly cultivated understanding and refinement alone can discern. 'Ahavalpa' which may correspond to blank verse in English is their medium. It has attained its ripeness and rounded perfection in the hands of Elankov and Sathanar. With the impact of Jainism and Buddhism, there has sprung a deep distrust of the pleasures of the senses. It is true that the author of 'Silappathikaram' describes the height of a civilization given to an excessively luxurious living. Music and dance have reached their acme of perfection; but towards the end of the 'Lay of the Anklet' the artist in him gives way to the teacher in him; and he too has begun to preach the instability of human glory and the vanity of human wishes. He has his own sad misgivings about a people bent on an aesthetic sense and mode of life divorced from all moral fibre and strength.

In '*Manimegalai*' the zeal of a reformer is running to excess. One has to confess that it is nothing but a piece of violent propaganda for the dissemination of the teachings of the BUDDHA. However, one is keenly alive to the poetic charm of these two lays. The negative capability of ELANGOV, his fine artistic temper and his metrical perfection cannot but arrest our attention. None may deny the presence of choice words and measured phrases in '*Manimegalai*'.

The bellicose and warring element in man cannot be effaced; nor can the instinct of love be wiped out. They must find a new outlet; and have to be sublimated. With the Alwars and the Nayanmars, the war without has become a war within; and human love has been transfigured into divine one. The love of nature and art is never dead. For instance, APPAR while describing the grace and glory of the Lord bursts into the following strain:—

"Delicate as the breath of May, soft as the whispering south wind, sweet as the throb of a well-tuned

lyre, mellow as the gleam of the twilight moon, resonant as a bee-haunted mere, the spirit of the Lord steals into me."

These mystics are deeply read in the classics and have pressed into their services all the poetical devices of the classical age for giving expression to new patterns of thought and expression.

The deep researches which the first three Alwars have carried on in the laboratory of their own souls have a peculiar value of their own. In the rise and fall of the waves of the sea, THIRUMAHISHAI ALWAR catches the dance and rhythm of the whole creation.

We come across the luminous understanding, the fastidious taste, and the urbanity of Perialwar, the lyric rapture and splendour of Andal and the deep lament of Thonderadipodi over the melancholy waste of his youth, in the lascivious laps of women. The majestic march of Thirumangaimannan's verse has exercised a great influence on Kamban.

In Nammalvar we find a rare blend of the intellect, emotion and feeling, which melt into one vast flood of splended spiritual experience. By honouring Tagore, the far west has really paid a glowing tribute and homage to this South India saint; for he has anticipated almost all the thoughts and meditations enshrined in the 'Gitanjali'.

We can never forget the peculiar lilt and melody of Sambandar's verse, the fearless and majestic utterances of Appar and his depth of thought, and ripeness of understanding, the passionate devotion of Sundarar, and the soul-subduing and tear-compelling poems of Manickavasakar.

The period ranging from the sixth century A.D. to the ninth is indeed a glorious one in the history of Tamil literature. It is no exaggeration to say that we have an imperishable body of devotional literature, the like of which the world is yet to see.

The Ninth Century is also remarkable for the creation of a great epic *Jivakachinthamani* whose author instead of adopting the 'Ahavalpa' has explored the possibilities of 'viruththam'. Indeed he is the forerunner of Kamban, who by the alchemy of his genius has improved upon the 'viruththam' adopted by his predecessor.

Thirukathathevar has profited a great deal by the accumulated poetic traditions of ages. Silappathikaram, Manimegalai and Perunkathai—all these epics are couched in 'ahavalpa' and Jivakachintamani is the first experiment with an epic in this new vehicle of poetry.

The marriages which are celebrated in all their sensuousness, pomp and glory are not marriages in the truest sense of the term. They mean the acquisition of various frontiers of knowledge and experience on the part of Jivakan, the hero of the epic. In the epic there is the harmonious development of the various faculties of man which are needed for the realization of the far off goal to which the whole creation moves. The epic describes the gradual evolution of a perfect soul on earth; and Jeevakan's endeavour in various fields of knowledge is only a prelude to the fulfilment of his ultimate destiny that waits him in his voyage to the unknown.

Mere orgy of emotion without the steadying and sobering influence of the intellect may result in a maudlin kind of literature ; and there is an imperative need for a Sankara; and Sankara is born at this hour. But too much preoccupation with mere intellectual process without the leavening influence of love may pave the way for arid tracts of profitless reasoning ; and a Ramanuja is necessary. Too much emphasis upon any aspect of life upsets the even balance of life. Thus we see the human cycle of the varying ascent and descent of love and knowledge. Only in the happy fusion of love and intellect lie the rich promise and the bright hope of humanity. With the advent of Ramanuja, the springs of love which have been choked with the desert sands of air reasoning are flung open. We find Kamban borne aloft on the crest of the released wave of feelings. Sekkezhar's Periapuranam and Kamban's epic are born. The remarkably limpid flow of Sekkizhar's narrative, the purity of the vehicle with which he handles the theme and the deep religious feeling which colours every event of the devotee—all this has a great claim on our attention.

In the amplitude of knowledge and width of learning, in daring imagination, in the uniform level of excellence of the stately march of verse, in the strenuous endeavour to justify the mysterious ways of God, in the creation of a literary epic, in the utter scorn of kingly power, in the design of a new Republic based on the freedom of thought and love, Kamban resembles Milton. What Wordsworth says of Milton may be said of Kamban—

" Thy Soul was like a Star, and dwelt apart
Thou hadst a voice whose sound was like the sea."

After Kamban there has been a kind of darkness in the world of creative literature. It is not an unrelieved gloom. Here and there we have some lights of a Villi or Arunagiri gleaming through the enveloping darkness.

There is a spiritual revival in the seventeenth century. Thayumanavar, Kumaraguru Swamigal and Sivapragasa Swamigal—all these devotees have made their appearance. Their writings are quivering with a rare religious feeling; and they cannot but enrich and ennoble Tamil literature. In rare felicity of expression and the revival of various metres, Kumaraguru Swamigal stands unique. In the breadth of outlook, in wide toleration and in mystic experiences, Thayumanavar recalls to us Nammalvar of the sixth century. In the hands of Ramalinga Swamigal who belongs to the nineteenth century, Tamil has become a very flexible instrument; and his noble utterances flow from an abundance of the heart and glorious vision of the Lord. As we read his poems, we feel as though we were floating on an endless stream of melody. Bharathi follows in his footsteps.

With Bharathi, we enter upon the threshold of the modern age. He is a product of three fertilizing streams of literatures—Tamil, Sanskrit and English. Wordsworth, Shelley and Keats have really shaped the furniture of his mind. He is in the tradition ; and one cannot but share the opinion of T. S. Eliot who in his remarkable essay " Tradition and Individual talent " has drawn our attention to the great value of tradition. The individual talent is nothing but a mounting wave against a rich and wide background of a sea of tradition.

FOLK DANCES OF TAMILNAD

Karagam.

This is a form of folk dance which is very popular in the southern districts of the State. The dancer dances expertly balancing a mud pot or a brass vessel on his head to the accompaniment of Nagaswaram music. He whirls around and yet the vessel never falls from his head. This art needs expert training and great precision in movement. This is danced during village festivals and to placate the Gods.

Kavadi.

The *Kavadi* is an arch-shaped thing which is balanced on the shoulder of a person at the junction of the neck and the shoulder while the dancer dances round. He deftly moves the *Kavadi,* without touching it, to all parts of his body. The orchestra is *Naiyandi Melam* consisting of two *Nagaswarams,* two *thavils, pambai* and *thamukku.*

Puravi Attam or Dance of the Dummy Horse.

The figure of a horse is made of bamboo splinters and the frame is covered with thick paper. It is then lavishly decorated so as to represent a war horse. The dancer then stands on stilts through a hole on the back of the horse, the upper portion of his body shouring through. In this way, the man appears to be riding the horse. He then dances to the music of the orchestra. Though the music and dance are of the simple folk type much skill and variety are displayed. This is usually daced during festive occasions.

Mayil Attam or the Peacock Dance.

This dance is more like Puravi Attam. The only difference is that the dancer does not wear any stilts and the dummy of a peacock replaces that of a horse.

"No poet, no artist of any art has his complete meaning alone. His significance, his appreciation is the appreciation of his relation to the dead poets and artists. You cannot value him alone, you must set him for contrast and comparison among the dead."

Bharathi is the poet and apostle of our nationalism. The blind and the mute have found an eye and a voice through him. The inarticulate longings and aspirations of a people groaning under the yoke of an alien rule, have found a vent in him. But his National songs may not touch us as deeply as they did, when they were first uttered in the first flush of the dawn of our struggle for freedom. However, the beauty of poetic expression and the felicity of phrases will have an appeal as long as Tamil language lasts on earth. His "Cuckoo song" is the roof and crown of his artistic creation; and his songs in praise of Kannan have the rich flavour of the Sangham classics. These lyrics will withstand the ravages of time. The lone and terrible voice of Panjali in Panchali Sabatham is only the voice of a down-trodden Nation.

The tyranny of the British Rule in India is indeed a blessing in disguise. Our acquaintance with English has flung open the doors of Western culture. Our contact with English literature has enriched our own in a remarkable manner. The growth of a vigorous Tamil prose style is indeed a product of it.

After Bharathi, the stream of poetry has not gone dry; we find several poets walking in his footsteps. The genuine breath of poetry in "Bharathi Dasan", the patriotic fervour in Namakkal Kavignar's songs and the majestic sweep and glow of poetry in Yogiyar's "Ahalya" and the exquisite charm and felicity of expression in Desigavinayagam Pillai's verse are but a prelude to a greater achievement yet to be born. There are also other kindred voices of poetry heard; and they show a rich promise of the future development of poetry.

In the region of short story, we may pride ourselves on our remarkable achievement; and some stories may rank with the best that the world has ever produced. The development of novel has not yet attained a great level of excellence and maturity. Most of the novels are nothing but a string of incidents, and they cannot satisfy the highly critical sense of readers who have drunk deep at the masterpieces of a Tolstoy or a Dostoevsky or a Proust.

An attempt at characterization is being made; and there are novelists who have launched on a psychological

(*Continued on page* 89)

(*Continued from page* 4)

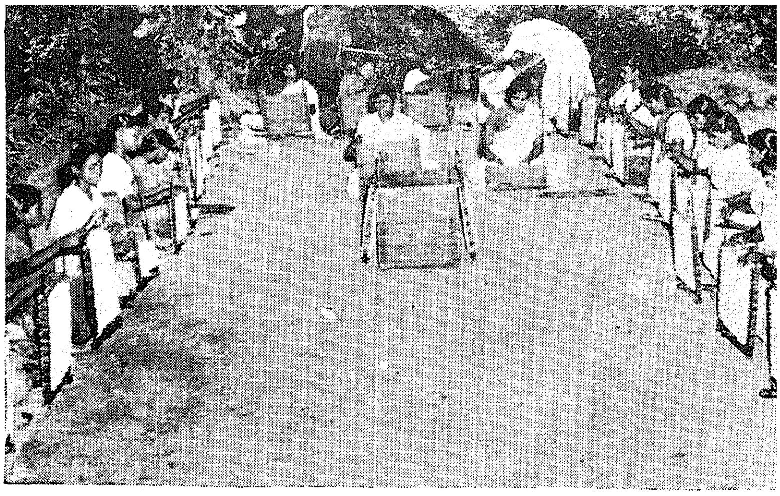
by an officer set apart for this purpose and in a period of three to six months. The higher grades those belonging to the Indian Administrative Service and the State (the old provincial) service should be trained in an institution where in a year or two they could be taught the subjects especially required in and for administration—like the Principles and Practice of Public Administration, Economics, Public Finance, Accounting, Statistics and their use. This training should be in a residential institution where the recruits, through the social life of such an institution, would get that training in *esprit de corps* and team-work so necessary to ensure and maintain co-operation and morale in the higher services of the State. Here also they would be given opportunities for some form of social work and service in a nearby college or in the city so that he could get that human touch so necessary in the administration of the welfare services.

It is only by insistance on high standards of general education before recruitment and on training for the new and difficult but interesting tasks that await the administrator of the planned welfare State that this kind of State can become a reality and not remain a dream.

were set apart in a portion of the City for the preservation of health and incidental sexual satisfaction of men, under cautious medical inspection, no harm could be wrought upon the individuals or even on society. It was also foolishly upheld that if regulated prostitution was not permitted, it would lead to clandestine prostitution and every family women would be exposed to the unbridled profligacies of men and that such uncontrolled and expansive prostitution would cause the vast spread of venereal diseases producing thereby disastrous effects on the nation. Thus, the system of regulation was flourishing, perhaps all over the world during the 19th Century.

Now, let us glance at the results of the double moral standard: (1) commercialised prostitution, (2) brothels, (3) the ravages of venereal diseases—as the regulation did not provide for any medical check or supervision for the men-visitors to brothels and hence through them these diseases spread—(4) a vast commercial profit-making traffic in women and girls, with its army of managers, procurers, abettors and so on. So, to sum up, the regulation negatived the eternal principle that "there is unity of the moral law and that there is no sex in right and wrong".

It was against this one-sided and man-made system, which not only condoned immorality in men but officially made elaborate provision for its perpetuation and exploitation of women that a great English lady, Madam Josephine Butler, with a band of women, and later men workers, launched a ceaseless fight. She travelled wide and made a detailed survey and study of the System of Regulation and the consequences thereof in all aspects. Then she roused the world against the legal imposition of the evils of regulation. She contended that equality was the basis of all morality and that women and men were of equal and infinite human value; that what was morally wrong could not be medically right; and that no law should operate against women only on the ground of their moral character, unless they had offended against the law itself. In her opinion, the regulation bred and spread contagious diseases through brothels, in spite of the medical inspection, which was futile, as it applied only to one of the two partners in the sexual indulgence, based upon commercialised gains. The system, she said, threw a great slur on the womanhood by enslaving women and encouraging them to be the feeders of men's sexual profligacies. A committee of medical experts formed to report on the necessity or otherwise of the existence and continuance of the regulation, also opined that "the existence of regulated prostitution in no way diminishes the danger of infection". "For, clearly, medical inspection, which leaves untouched one of the partners in a promiscuous act, is unreliable so far as prevention of infection is concerned." Besides, according to them, there must always be a class of women who cater to the rich and "respectable" clientele, who will not move and cannot be moved into a segregated area, but would carry on their trade clandestinely." At no time and nowhere in the world had it been found possible for any legal or police authority to confine the whole of prostitution population within recognised bounds. According to them, the regulation did not



Match industry on a minor scale is run in the Stri Sadana.

diminish or do away with the clandestine or amateur prostitution but, on the other hand, served as a leading example for the same: Obviously, it did not safeguard the spread of contagious diseases as well. So, the committee decided against the continuance of regulation system as early as in 1914.

It was for these reasons that Madam Josephine Butler pleaded that the regulation in the countries might be replaced by what she called "Abolition". One of the principles of Abolition was that no civilised society or Government should register their official consent for the commercialised system of prostitution in their countries. Even an inevitable evil should not be fostered with a legal sanction by them. It was high time that the Government had a survey of the conditions of prostitution and took steps to remove the causes nurturing and necessitating it. Besides, early steps, as a preventive measure, should be adopted to the proper upbringing of children in improved house-conditions with proper education at schools. Above all, propaganda should be constantly done for the enlightenment of society at large against the nation-wide disastrous consequences of the commercialised prostitution. Instead of wasting time and energy on the arguments for the perpetuation of an ancient and ugly evil, the Governments and the public should direct their time, energy and all available resources to the raising of the socio-economic standards of living conditions of people, so that the evil, chiefly based upon socio-economic causes, might have its

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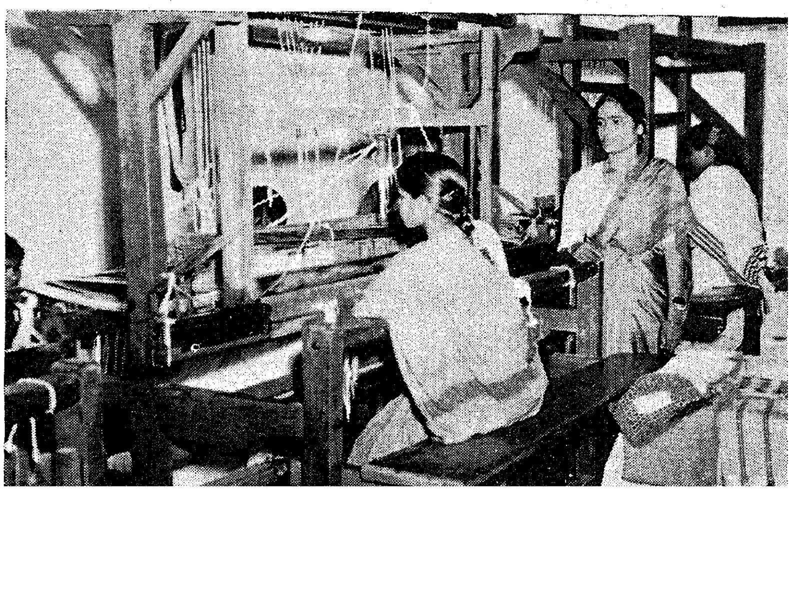
A section of the weaving class.



MEDICAL AID TO THE MASSES

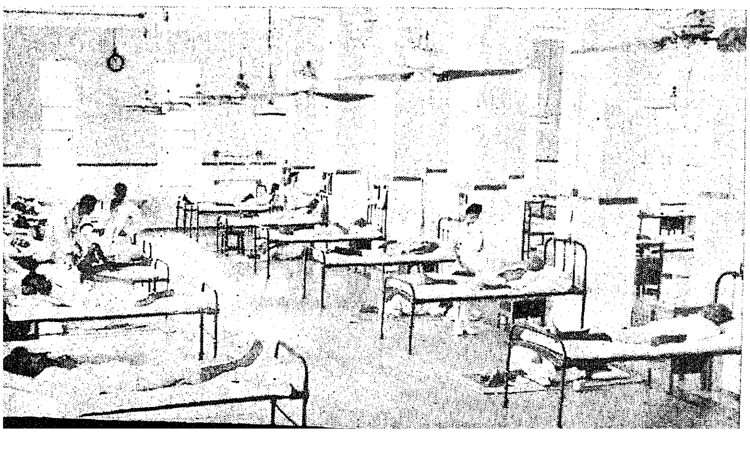
DR. V. R. THAYUMANASWAMI,
Director of Medical Services.

The general aim of medical programmes during the Plan is to expand existing medical services to bring them increasingly within the reach of all the people and to promote a progressive improvement in the level of national health. The specific objects are—

(1) Development of technical manpower through appropriate training programme and employment of persons trained ;

(2) establishment of institutional facilities to serve as basis from which services can be rendered to the people both locally and in surrounding territories ; and

Such bright and clean wards in the hospitals quicken the recarry of the patients.



(3) family planning and other supporting pro grammes for raising the standard of health of th people.

Medical Education.

Organized medical teaching was started in Madra with the arrival of the British in the first half of th nineteenth century. In about 1824, a medical schoc was established in Madras. This medical school wa converted into a medical college in 1835 and is nov known as Madras Medical College. Recently th Stanley Medical College at Madras and Madura Medical College have been established and there is als a private Christian Medical College at Vellore. Anothe Medical College has been started at Tanjore this year.

Owing to medical relief with the advent of the tw Five-Year Plans, much headway has been made in th way of increasing the number of hospitals and dispen saries. More Tuberculosis Clinics, Dental Clinics, V.D Clinics and Specialist departments in the variou hospitals have come into existence. Last but not th least, the more important units—the Primary Healt Centres which deal with both curative and preventiv medicine in relation to rural medical relief in t Community Development Blocks and the Employ State Insurance Scheme for workers have come i being. Simultaneously the indigenous system

medicine also has been given its due share for contribution towards medical relief. The following few pages will give a glimpse of the activities of the Medical Department in the State:—

Medical Education.	*Annual admission*		
	1950.	1955.	1958.
Madras Medical College, Madras	125	135	135
Stanley Medical College, Madras.	100	110	110
Madurai Medical College, Madurai.	..	65	100
Tanjore Medical College, Tanjore, from July 1958.	..	..	75
		Total ..	420

At the end of Second Five-Year Plan, the total number of admissions is expected to be about 445.

Post-Graduate Education.

The following courses of study are provided for in the Madras Medical College, Madras:—

M.D. (General Medicine ; Pathology ; Bacteriology ; Obstetrics and Gynæcology) ; M.S. (General Surgery ; Ophthalmology ; E.N.T. ; Gynæcology). M.Sc. (Anatomy ; Physiology ; Pharmacology; Bio-Chemistry; Bacteriology ; Pathology and Pharmacy) ; Post-Graduate Diplomas (Radiology ; Venereology ; Obstetrics and Gynæcology ; Child Health ; Opththalmology ; E.N.T. Anæsthesia ; Orthopædics ; Clinical Pathology and Tuberculosis) and Post-Graduate Degree in Public Health ; B.S.Sc.

In Stanley Medical College, Madras, provision has been made for the following courses:—

M.D. (General Medicine ; Midwifery), M.S. (General Surgery), M.Sc. and Ph.D. in Anatomy and Diploma in Obstetrics and Gynæcology.

Upgrade Institutes with Central Aid and Training on All-India basis—

Institute of Obstetrics and Gynæcology, Madras Medical College, Madras—for M.D. Midwifery ; D.G.O. and M.S. Gynæcology.

Institute of Venereology, Madras Medical College, Madras—for Diploma in Venereology ; Refresher course in Venereology for medical and non-medical personnel.

Institute of Anatomy, Stanley Medical College, Madras—for M.Sc. and Ph.D. in Anatomy.

Institute of Pædiatrics, Madras Medical College, Madras—for Diploma in Child Health.

Barnard Institute of Radiology, Madras Medical College, Madras—for D.R., C.R.A. and D.R.A.

Upgraded department.—Department of Social and Preventive Medicine, Madras Medical College, Madras.

Higher training abroad—

Under the Colombo Plan and Central Overseas Scholarship five Medical Officers have gone abroad.

Under the State Aid, two Medical Officers with post-graduate qualification are sent abroad for short-term study tour every year and there are proposals to send two or three Medical Officers for a longer period to obtain post-graduate degree.

Revised M.B.B.S. Course.—From July 1957, the minimum qualification for admission to this course is Pre-University. After that one year Pre-Professional course has to be undergone, after which 4½ years' regular course followed by one-year student—Internship, after which the degree is awarded. This is followed by one-year House Surgency.

Integrated Medicine.—The College of Integrated Medicine imparts training in three indigenous systems of medicine, i.e., Siddha, Unani and Ayurveda and also allopathic system. Minimum qualification for admission is Pre-University after which the one-year Pre-Professional course followed by 4½ years of study and one-year House Surgency. Students qualifying in this course are designated as Graduates of the College of Integrated Medicine. Annual admission 120. There are about 246 rural dispensaries of indigenous medicine.

Research.—A chair of History of Medicine (Indigenous Medicine) with central and has been created with one Lecturer and three Pandits, one for Ayurveda, Siddha and Unani, respectively.

Two Research Officers (Indigenous Medicine), one each for Ayurveda, Siddha and Unani have also been appointed.

Nursing.—Every year four nurses (head nurses and nurses only) are deputed to undergo post-certificate training in Psychiatric Nursing in All-India Institute of Mental Health, Bangalore. Nursing staff are also deputed for training within India and outside India in Pædiatric Nursing Diploma in Dietetics and Public Health Nursing.

An Auxiliary Nurse-Midwifery course has also been instituted and 90 candidates are admitted every year. Integration of Public Health Nursing in the basic course for Nurses was started with the assistance of World Health Organization.

A scheme for employment of married women nurses on part-time basis has been drawn up. They will have to work five hours during day time. This scheme has been approved by Government but has yet to be implemented. They can join General Provident Fund and the Madras Retiring Invalid Gratuity (Non-Pensionable) Rules will apply to them.

Male nurses were being recruited in the proportion of 1 to 3 but now recruitment is kept in abeyance for the time being.

Treatment for cancer is provided at the Cancer Institute, Adyar.

Pharmacy Services.—A three-year course leading to the degree of Bachelor of Pharmacy is conducted in the Madras Medical College. There is also a two-year Diploma course in Pharmacy for Matriculates. Fifteen students are admitted to the Degree course every year and 60 to the Diploma course. There is a proposal to increase the number of seats for the Diploma course to 100.

Dental Services.—There is a four-year course after Pre-Professional leading to the B.D.S. Degree. Annual admission is 20. There is a proposal to increase it further after construction of a Dental Institute. It is also proposed to equip all headquarters hospitals with dental clinics. So far seven dental clinics have been sanctioned and two have been opened and three more are proposed to be opened during 1959–60.

Family Planning.

Family Planning Clinics.	*Urban.*	*Rural.*
1 State Government Medical Institutions.	14	59
2 Local bodies including those opened by Corporation of Madras.	8	..
3 Private organisations	3	2

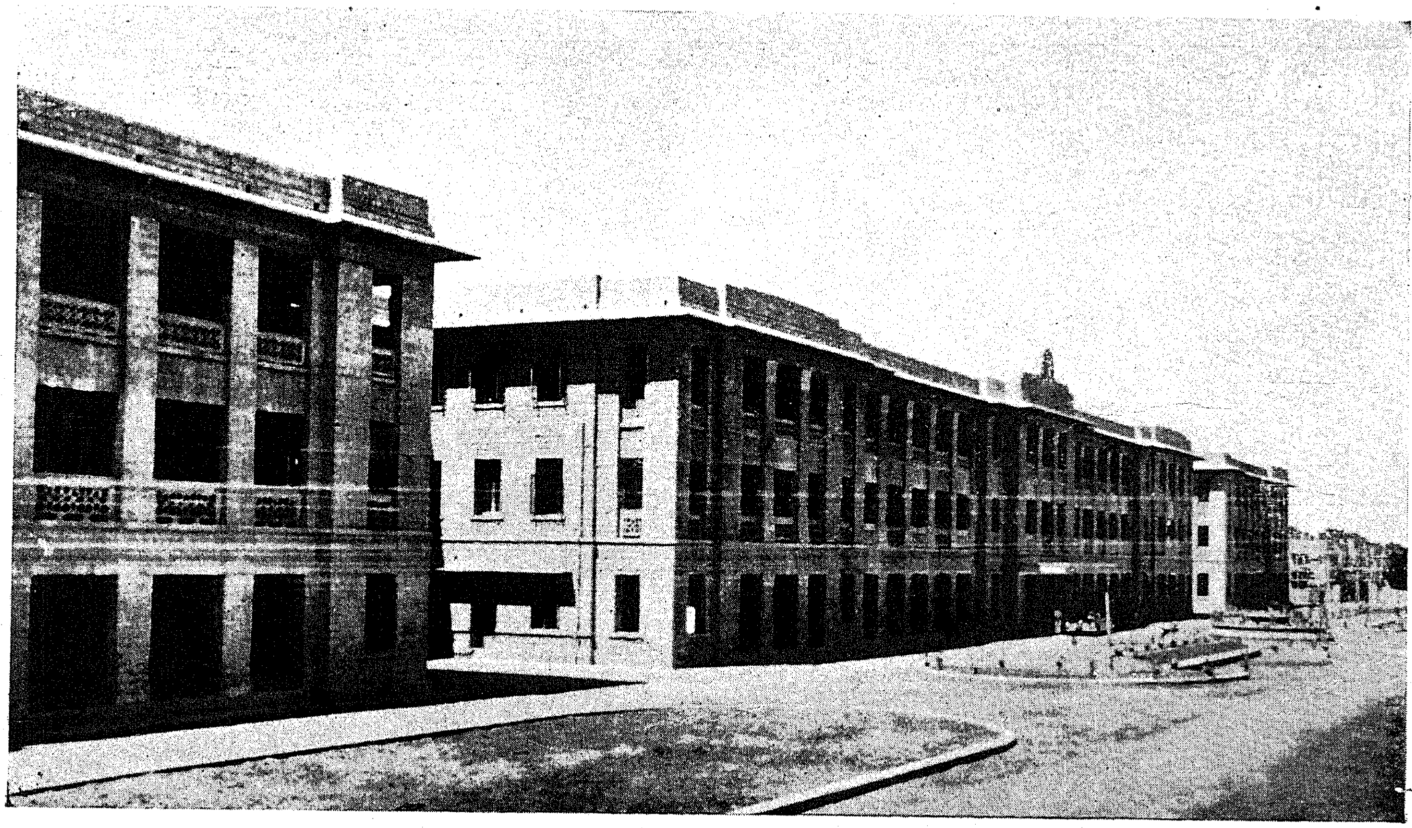
The existing Family Planning Training Institute is to be upgraded as one of the Regional Family Planning Training Centres in India.

Publications.—Family Planning Manual (English and Tamil); report and personal experience (English and Tamil) ; one Act Play (Tamil) ; safety calendar, 1958 (explaining safe period methods) ; memorandum explaining the details of vasectomy ; memorandum giving instructions to be followed by persons undergoing vasectomy.

An intensive Pilot Scheme for Family Planning was started in October 1957 in the Pudupakkam area. Later this scheme was extended to other Corporation divisions in the City in the shape of Father Information Centres numbering 32 and Mother Information Centres numbering 40, the former centres being located in the Birth and Death Registration office of each area and the latter in every Maternity and Child Welfare Centres.

Arrangements are being made to distribute wooden rosaries free of cost explaining safe period method, and to exhibit film shows on Family Planning. Family Planning staff are functioning in exhibitions for propaganda.

The services of private medical practitioners with enough surgical experience and having Nursing Home Facilities and willing to perform Vasectomy operations on persons sent to them, have been enlisted. They are paid a subsidy of Rs. 25 per operation plus other incidental charges towards penicillin, etc. This scheme was started to benefit persons who feel shy to go to a Government Hospital for undergoing Vasectomy operations or in respect of persons who may not find time to go to a public hospital for this purpose. The scheme

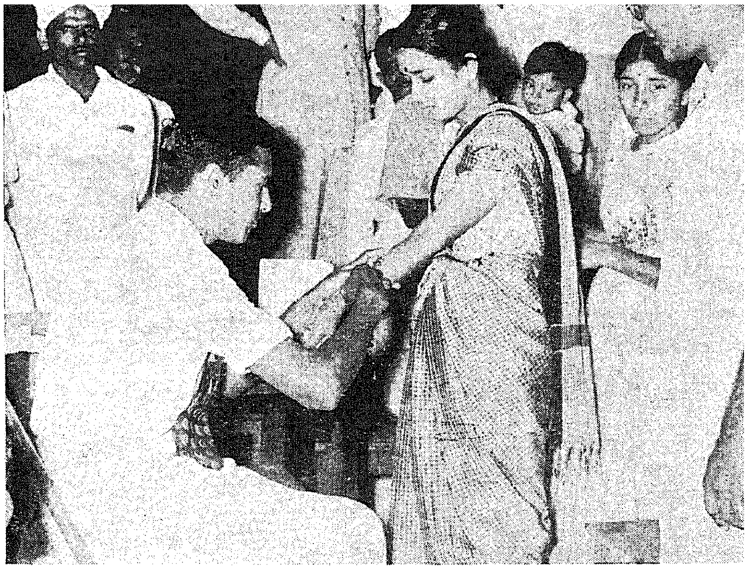


The New Buildings for the Madurai Medical College.

is at present confined to Madras City alone as an experimental measure. The "Madras City Public Employees Family Welfare Scheme" has been sanctioned by the State Government wherein all encouragement and facilities are provided for public employees in Madras City for adopting surgical methods of Family Planning. A cash grant of Rs. 15 and Rs. 25 per case of Vasectomy and Salphingectomy, respectively, is granted to cover their conveyance charges and other incidental expenses. For performing Vasectomy operation under this scheme, two surgical teams, one at Government General Hospital and another at Government Stanley Hospital, Madras, are functioning on Fridays and Saturdays between 5 p.m. to 7 p.m. Women can undergo the operation under this scheme in the three Government Maternity Hospitals in Madras City. Two nurses have been appointed to contact the families of almost all the public employees living collectively in places like Todhunternagar, Government House Estate quarters, Police lines, etc., in the City. Contraceptives are distributed free of cost to persons earning monthly Rs. 100 and below. From 1st January to 30th October 1958, 663 Vasectomy and 1,312 Salphingectomy operations have been performed. The State Family Planning Board and Co-ordination Committee are rendering good service in this field.

Employees' State Insurance Scheme.—The Employees' State Insurance Scheme was first implemented in Coimbatore in January 1955 covering 36,000 workers and this number later increased to 50,000. Five State Insurance dipsensaries, 48 panel doctors and one Mobile Van dispensary are in that area. A Central Medical Store (Employees' State Insurance) functions at Coimbatore, which dispenses prescriptions of costly and special drugs of panel doctors. In November 1955, the scheme was extended to Madras City covering 50,000 workers and this later increased to 66,000 when 14 State Insurance dispensaries and one Mobile Van dispensary have been set up. Here the Medical Officers are of the Service Cadre. There is one panel doctor in Tambaram and one part-time doctor at Red Hills. In October 1956, this scheme was extended to Madurai, Ambasamudram and Tuticorin covering 36,000 workers. Eight dispensaries have been set up in these places. Medical facilities available at Madura Mills, Pandian Mills and Meenakshi Mills were also utilized. Services of Medical Officers of Government Hospital, Ambasamudram, and Lower Dam Camp Dispensary, Papanasam, were utilized. In November-December 1958, this scheme was extended to Salem, Mettur Dam, Udumalpet and Tiruppur covering 20,000 workers with State Insurance dispensaries and a Mobile Van Dispensary. Medical facilities available at Mettur Chemicals were utilized. A lakh and seventy thousand workers are so far covered by insurance. Besides ordinary drugs, costly and special medicines and also medicine which should be prescribed only by specialists are given.

For in-patient treatment, an annexe of 84 beds at Coimbatore, 70 beds at Ramaligam T.B. Sanatorium, Perundurai, are set apart for workers. In Madras, a separate Employees' State Insurance Hospital with 78 beds is functioning. (There are proposals for a bigger and new hospital at a cost of Rs. 24.5 lakhs.) Sixteen beds at T.B. Sanatorium, Tambaram; six beds in Raja Sir Ramaswamy Mudaliar Lying-in Hospital, Madras, are reserved for workers. At Madurai, provision has been made at the Christian Mission Hospital.



Students of the Medical Colleges come forward to render medical aid to villagers who do not have medical facilities. In this photo, a student of the College of Integrated Medicine is seen giving injection to a woman patient at Gallettipatti, a village near Madras.

There is a mobile X-ray plant at Employees' State Insurance Hospital, Madras. X-ray plants in Government hospitals at Udumalpet and Tiruppur are also provided. At Madras, Coimbatore and Madurai, separate Employees' State Insurance ambulance vans are functioning. In Coimbatore, Madras and Madurai specialists have been appointed. Insured persons suffering from cancer are treated at Government General Hospitals; Government Hospital for Women and Children at Madras, and the Government Erskine Hospital at Madurai.

House visits of insured persons suffering from Tuberculosis are arranged at Madras.

There is a proposal to construct a ward to accommodate 50 more T.B. patients in T.B. Sanatorium, Tambaram. Twenty-two beds have also been reserved in T.B. Sanatorium, Austinapatti. Proposals for mass radiographers ano B.C.G. vaccination are under consideration.

Medical Bulletin.—A medical bulletin is published periodically and distributed to all State Government Medical Officers free.

Eye Banks.—There are three eye-banks in the State.

Blood Banks.—The Blood Bank team takes part in various exhibitions for propaganda. There are 19 blood banks in the State. Medical Officers are deputed for training in blood transfusion and resuscitation work. Blood donors are paid Rs. 7 per donation towards allowance for conveyance, etc.

Increase of bed strength.—It is proposed to increase the bed strength in hospitals by 1,075 beds during the Second Plan. Of this, 572 beds have been sanctioned.

Tuberculosis Control.—It is proposed to have one T.B. clinic at each district headquarters hospital. The T.B. Hospital at Otteri, Madras, run by the Corporation has been taken over by the Government. A new T.B. Sanatorium is under contruction at Austinapatti in Madurai district. An after-care and rehabilitation centre has been provided in the T.B. Sanatorium at Tambaram.

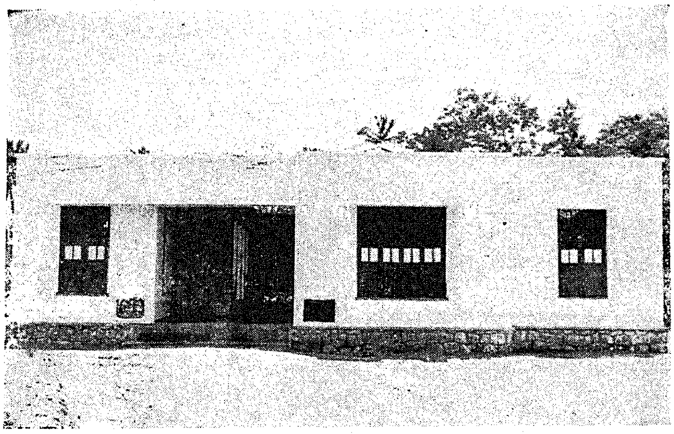
Public Health Laboratories.—One principal laboratory and ten district laboratories are proposed to be opened. Laboratories at Vellore, Palayamkottai and Salem are now functioning. The principal laboratory is to be located at Coimbatore.

Provincialization of Local Fund and Municipal Institutions.—Of the 28 Local Fund and Municipal Medical Institutions proposed to be provincialized during the Second Plan period, 24 have been provincialized and the remaining four will be provincialized by the end of the Plan period. Fifteen rural dispensaries have also been provincialized so far.

Leprosy Control.—A leprosy treatment and study centre is established at Tirukoilur, seven leprosy subsidiary centres are functioning. More subsidiary centres are proposed. One Leprosy Sanatorium for Children is functioning at Ethapur, Salem district.

Child Guidance Clinics in Psychiatrics departments.—Child Guidance Clinics function in the Psychiatric departments at the Government General Hospital and Stanley Hospital, Madras.

Primary Health Centres.—There is one Primary Health Centre for every 100 villages. The main services provided are medical relief, maternity and child health care, Family Planning, School Health, Health, Education and control of communicable diseases. Thirty-four Primary Health Centres have been provided with jeep station wagon by the State Government and UNICEF. Most of the Primary Health Centres have got sub-centres. The Medical Officer visits the sub-centres and villages also round about to render medical aid. Milk powder is also distributed to expectant mothers and pre-school children in each Primary Health Centre with the assistance of UNICEF. It is proposed to establish about 150 to 200 Primary Health Centres in the whole State. So far 94 Primary Health Centres are functioning. Proposals are under way for construction of Primary Health Centre buildings and staff quarters for 77 centres. In cases where specialized care is needed, the Medical Officer arranges to transfer such cases to Taluk Headquarters Hospital. Patients whose monthly income is less than Rs. 100 are given free transport in the jeep station wagon to the hospitals in emergency and those whose income is about Rs. 100, a rupee for a mile is charged.



Primary Health Centre at Agastheeswaram in the Kanyakumari district.

In the Second Plan, Rs. 232·54 lakhs have been set apart for improvements to teaching institutions and hospitals attached to them. The savings from other schemes are earmarked for the starting of a Medical College at Tanjore.

For the improvement of the Medical Institutions in the City, Rs. 91·02 lakhs have been allowed. Under this scheme, the Women and Children Hospital will get a new Pediatric block and the Ophthalmic Hospital will get mobile Ophthalmic Units. The other hospitals in the City are also provided with new equipments, buildings, etc.

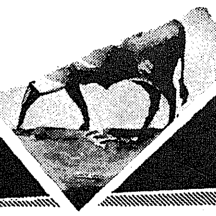
District headquarters hospitals are to be provided with additional buildings and up-to-date equipments at a cost of Rs. 90·44 lakhs. Under this scheme, new headquarters hospitals are to be built at Chingleput, Palayamkottai in the Tirunelveli district and Ramanathapuram. The headquarters hospitals at Cuddalore and Coimbatore are to get new blocks of 100 beds each. The Headquarters Hospital at Tiruchirappalli is to get an additional out-patient block. New nurses' quarters will be built at Salem and Tiruchirappalli.

Taluk headquarters hospitals in the State are to get 1,076 beds more and other improvements at a cost of Rs. 108·56 lakhs.

Rupees 89·88 lakhs have been allotted for opening 200 Primary Health Centres, so far 94 such centres have been opened, and 77 more are under construction.

Of the 14 urban units and 84 rural centres proposed to be opened for Family Planning at a cost of Rs. 10·64 lakhs, 14 urban units and 59 rural centres have been opened so far.

For other schemes, Rs. 124·30 lakhs have been allotted. Under these schemes, more Dental Clinics are to be opened ; Local Fund Taluk Headquarters hospitals are being provincialized ; nurses' quarters are being constructed ; special diet kitchens, T.B. Clinics, Leprosy subsidiary centres, Isolation wards for advanced cases of Tuberculosis and after-care and rehabilitation centre for recovered T.B. patients are being established; an infectious diseases hospital and a mental hospital are proposed to be established at Madurai.



Veterinary Education in Madras

Dr. I. D. MANTRAMURTI,
Principal, Government Veterinary College, Madras.

Worship of the cow in India can be traced to the prehistoric times. Animals received considerable attention appropriate to those days and the veneration for the cow has been handed down through the centuries. It is clear that the importance of livestock in human welfare was much appreciated even in the early days of Indian history.

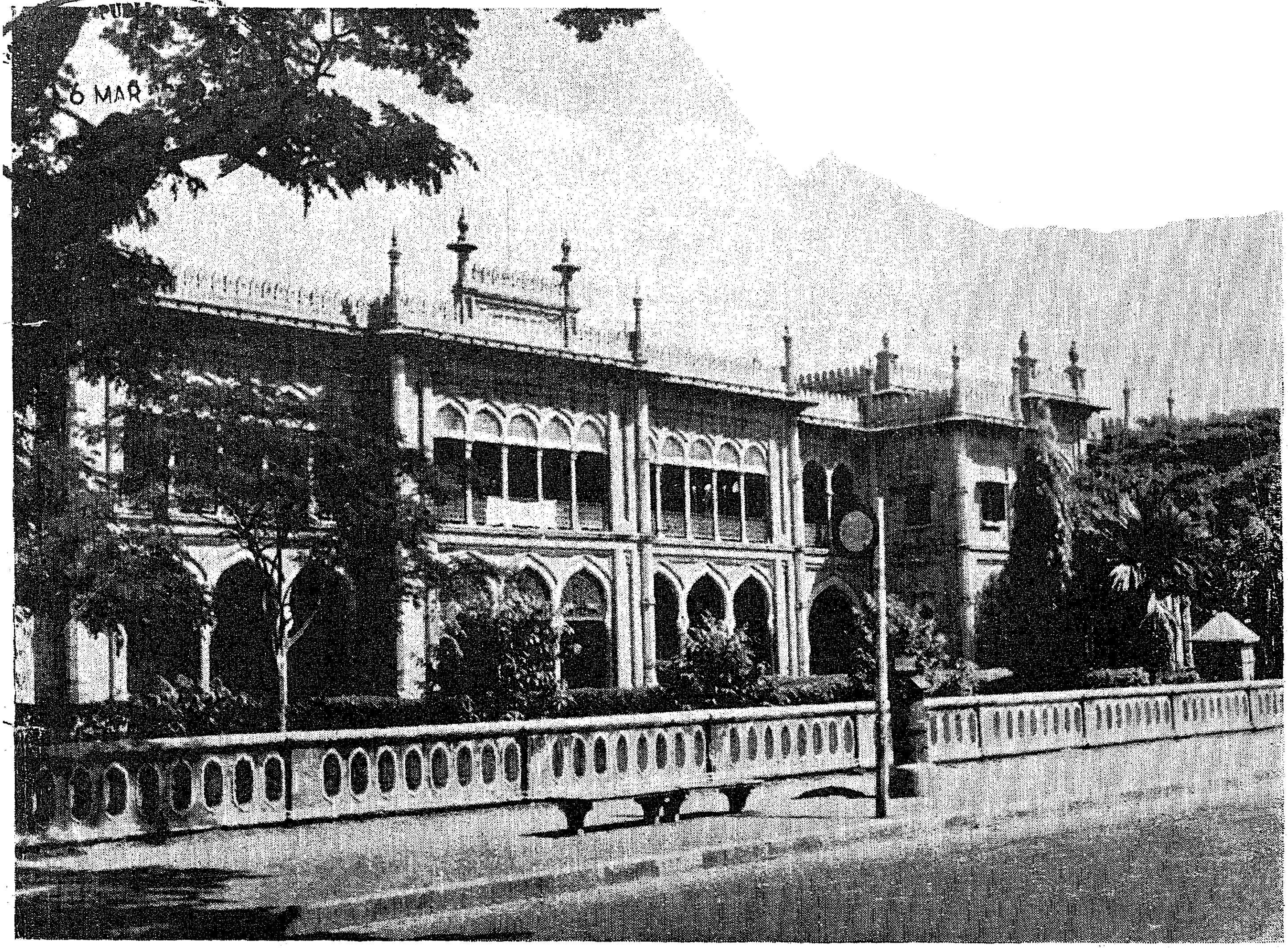
In the British era, the stud farms which they established were looked after by men from Britain since 1774, as there were no Indians who were qualified Veterinarians. Even those persons who were imported from Britain were mostly unqualified. History revealed that qualified Veterinarians from Britain were made available in India only in 1808. This led to the establishment of an Army Veterinary Department in India in the year 1827. These Veterinarians devoted their attention mostly to the study of tropical diseases affecting the army horses, but nothing, however important, resulted by their study. It was only after the advent of some of the outstanding Veterinarians in 1850 that an Army Veterinary School was established at Poona in the year 1862, mainly to train persons for the Army Veterinary Department. Soon it was realized that attention should be paid to the cattle population also, since the diseases affecting cattle were very poignant and sudden in their devastating effects, ultimately paralysing the food position. This resulted in the Government of India appointing the " India Cattle Plague Commission " in the year 1869, to focus their attention on the preservation of livestock. Among the various recommendations of the Cattle Plague Commission, the establishment of a Civil Veterinary School to train Indian agriculturists was one. Accordingly the first Civil Veterinary School was established at Babugarh in the year 1877 with the medium of instruction in Urdu. Since then there was great demand from various States for qualified Indian Veterinarians and the first Indian Veterinary College in English was established at Bombay in the year 1886. Then followed Bengal with English as medium of instruction while Lahore and Rajaputana started the Veterinary Colleges with Urdu as the medium of instruction.

The Civil Veterinary Department, Madras, which was inaugurated in the year 1892 for rendering adequate Veterinary aid in the Madras Province, could not progress well on right lines due to paucity of trained personnel. Hence the immediate need for an Institute of Veterinary Education was fully recognized for getting properly trained personnel to undertake work for bringing the underdeveloped animal industry to its proper status.

In the year 1900, a conference of Veterinary Experts in the country was held at Ambala to formulate a suitable Curriculum of Studies for Veterinarians in the country and accordingly the Madras Government opened an Institute of Veterinary Education with the medium of instruction in English on 1st October 1903 with twenty students in a rented building which was subsequently named " College ". Experience revealed that for the efficient teaching of Veterinary Science and also for affording facilities to the students for having clinical practice, a veterinary hospital attached to this educational institution was necessary and since the rented building could not be provided with all facilities the erection of a permanent building in Vepery High Road which was considered to be a fine piece of architecture was constructed and the College moved to its new premises. Since then the hard task of producing trained Veterinary personnel to meet the needs of times was entrusted to this College. How well this institution has discharged the duties entrusted to her is a matter of history! In surveying the long history of this College, we have to place on record the unforgettable services rendered by its early pioneers who had nursed this institution with care and devotion and also pay our tribute to those illustrious men of this College who had contributed so much to the building up of the profession.

To start with, the Veterinary course at this College was spread over a period of three years and the students were examined *viva voce* by the Board of Examiners appointed by the then Inspector-General, Civil Veterinary Department, Madras, and awarded a diploma after the final examination. On the recommendation

M.I. (Al.)—5 A



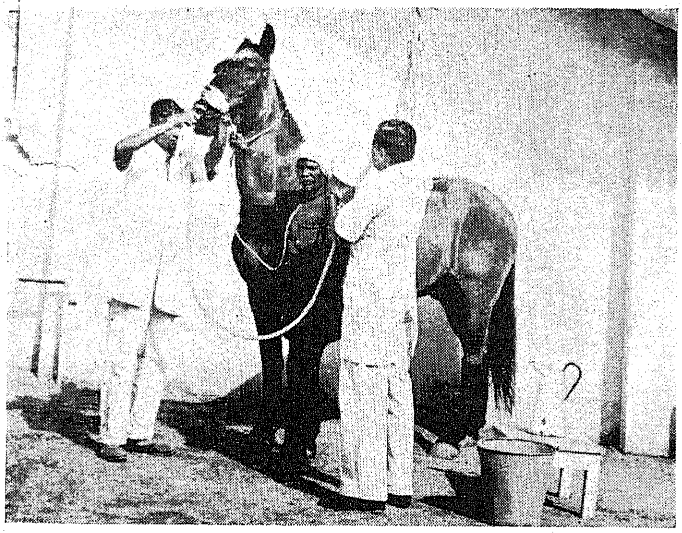
The Veterinary College, Madras.

of the Royal Commission on Agriculture, a revision of the curriculum of studies was made in the year 1930–31 and adopted at this College.

One of the important events in the history of the College is its affiliation to the University of Madras in the year 1936. This is the first Veterinary College in India to be affiliated to the University conferring the degree of Bachelor of Veterinary Science. Consequent on the introduction of the B.V.Sc. Degree Course, the syllabus and curriculum of studies on Veterinary Science were revised and the minimum qualification for admission to the B.V.Sc. Degree Course was made Intermediate in Arts and Science. Even after the B.V.Sc. Degree Course was introduced, the Diploma Course of three years' duration continued to function at this College. In 1938, the duration of the Diploma Course was extended to four years laying more emphasis on Animal Husbandry subjects and simultaneously the duration of the Degree Course was also extended to five years, both being run concurrently. In the year 1946–47, with a view to have a uniform curriculum of studies in India and as recommended by the Indian Council of Agricultural Research the duration of the Degree Course was curtailed to four years and one term abolishing the Diploma Course.

A short course of two years' duration designated as the Veterinary and Livestock Inspectors' Course was started in the year 1948. These personnel relieved Veterinarians of their routine duties in the field and helped the Veterinary Assistant Surgeons to concentrate on important problems relating to Livestock development. When about 250 Veterinary Livestock Inspectors were made available, this course was abolished in the year 1953.

After a year, when more Veterinary personnel were needed, it became imperative to provide a cheaper agency and accordingly a " Stockmen Course " of eleven months' duration was introduced in the year 1954. Students admitted to this course were given a working knowledge in the subjects of Veterinary Science with special emphasis on Animal Husbandry. This course continues to be conducted now at the Livestock Farms at Hosur, Pudukkottai and Orathanad where 200 students are admitted annually, with eight months' training



A horse being treated by the students of the Veterinary College.

at the Livestock Farm and three months' training at the Madras Veterinary College.

A Flaying Course of three months' duration, with a view to adopt better methods of flaying so as to reduce the economic loss through faulty flaying of hides and skins, was started at this College in the year 1954. This course seeks to train professional flayers and also Veterinary Assistant Surgeons who in turn would train flayers in the districts.

Specialised skills and techniques of Livestock improvement have formed land marks in the progress of civilisation as in other activities. The objective in Veterinary Education is to produce forward looking men able to apply a broad-based general education and specialised knowledge for the improvement of livestock wealth. Education forms the very root of improvement and highly qualified and experienced teachers who are specialists engaging themselves in research in their own lines are required now. With this objective in view, this College has given a lead to other Colleges in India in the field of higher Veterinary education. It is the first college in this country to afford facilities both for teachers and post-graduate students to undertake post-graduate research work in various fields of Veterinary Science and Animal Husbandry leading to the award of Research Degrees, M.Sc., Ph.D. and D.Sc. of the University of Madras. Till now 6 M.Scs. and one Ph.D. Degree have been awarded in the Faculty of Veterinary Science of the University of Madras. About 20 persons have at present registered for the M.Sc. Degree and are pursuing their research in this College.

In addition, with a view to provide in India a high standard of post-graduate training similar to that obtained in other countries, the Joint Indo-American Team on Agricultural Education and Research which toured the country has selected this institution by virtue of the already existing facilities, as one of the four colleges in the country for developing post-graduate education and research on a regional basis. Accordingly, the post-graduate course leading to the Degree of M.V.Sc., was inaugurated in September 1958 at this College by Sri Bishnuram Medhi, Governor of Madras. At present eighteen students, nine from this State and nine from other States have joined this course in various subjects of Veterinary Science.

This college also conducts, as and when necessary, post-graduate Refresher Courses for graduates employed in the Animal Husbandry Department of this State with a view to put them abreast of modern developments in Veterinary Science and Animal Husbandry.

In order to overcome the shortage of trained personnel in the field of Parasitology, a post-graduate Course in Veterinary Parasitology was conducted at this College from 1955 to 1958 with grants-in-aid from the Indian Council of Agricultural Research, when students from this State as well as other States were trained under this Course.

It may be noted with interest that for the first time in the history of this College, lady students were admitted to the B.V.Sc. Degree Course in 1948, the first of whom graduated in the year 1952. So far nine women graduates have passed out from this College.

With the addition of the new Block, the Hostel attached to the College provides residential accommodation for 470 students of this College.

At present the College has a well-equipped Hospital with different wards for both in and out-patients, an operation theatre with X-ray and Physio-therapy facilities and a Laboratory with modern equipment and appliances for the proper diagnosis of clinical cases. This affords excellent training facilities for students of Veterinary Science. The presence of different breeds of cattle, the poultry unit where exotic breeds of poultry are maintained and the Artificial Insemination Section afford ample opportunities for training in Animal Husbandry. In the field of control of Animal diseases, the position of this College has been unique. From its very inception, the College besides teaching, has bestowed time and attention on diagnostic work, research and investigation on Animal diseases of economical importance. Thus the College is not only a teaching institution of the Madras University, but is also a National Research Institute for Animal Husbandry in the economy of stock owners and the agriculturists and in the solution of the food problem. It continues to be the light and guidance for the future plans of development or Livestock and the Centre of Research. The history of this College cannot be said to be buried in antiquity. It is a contemporary history which most of us belonging to the Veterinary profession have lived together with this institution. What makes it of interest is not its length, but its crowded hours of glory and its work in the cause of dumb animals and the economic welfare of the poor ryots of our country.

Small Savings Wears A New look

SRI M. SHANMUGAM,
Special Officer (Small-savings) and Deputy Secretary to Government, Finance Department.

The history of the Savings Movement in India dates from 1833 when Government Savings Banks were established in Calcutta, Bombay and Madras. The Post Office Savings Banks were instituted in 1882 all over the country.

The Small Savings Movement was sponsored by the Government of India in 1943 as a war time measure to mop up the savings of the people with a view to checking inflation. The Movement has three principal objectives—

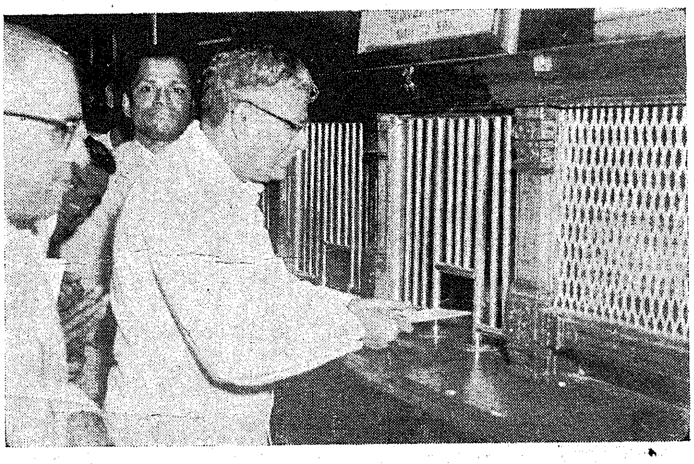
(1) It teaches monetary discipline and promotes thrift as a way of life.

(2) It stimulates public interest and participation in national development projects.

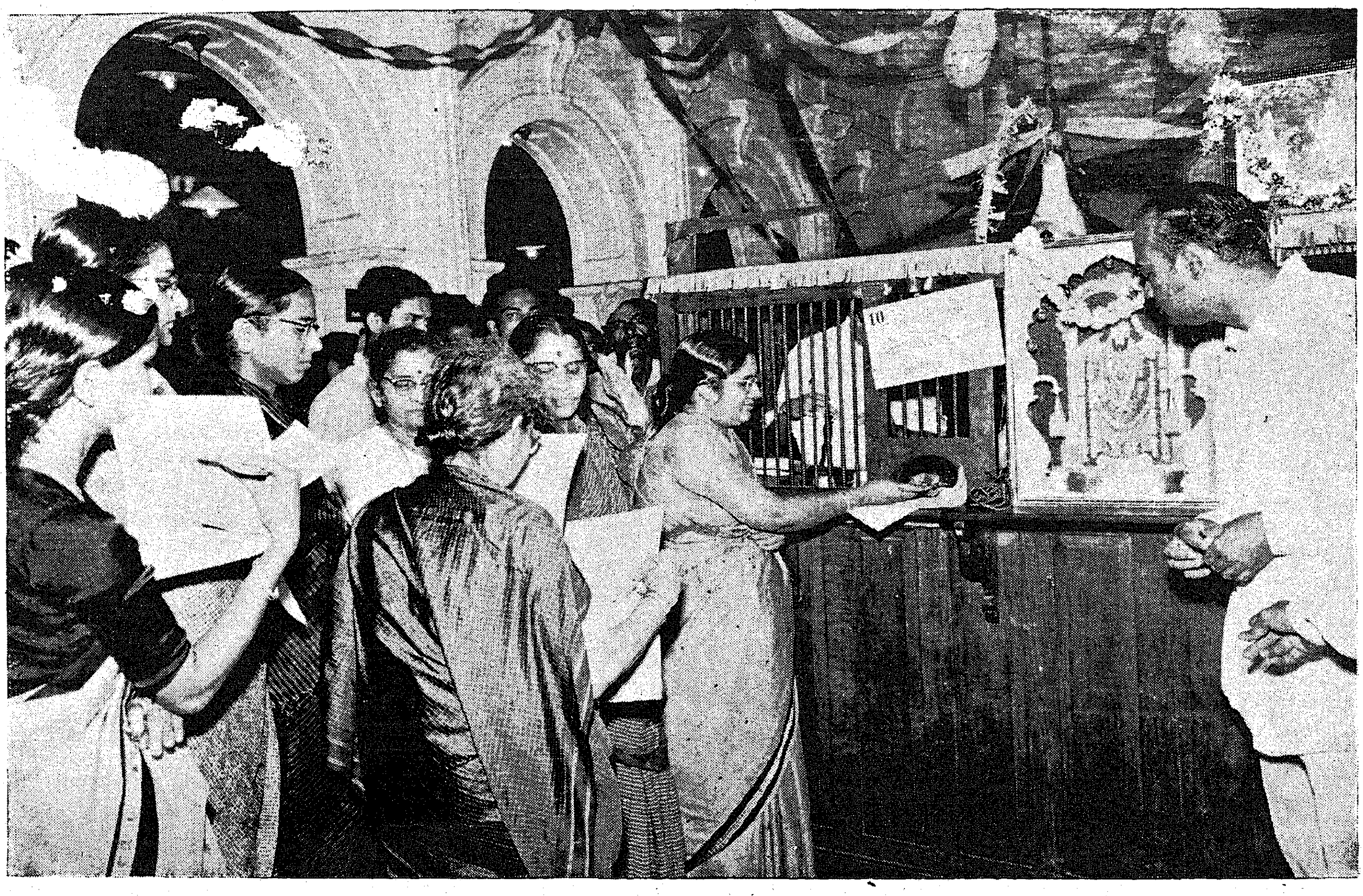
(3) The Movement helps to contain Inflation.

The value of Small Savings in a planned economy can scarcely be over-emphasized. The effort on Small Savings may well be crucial to the fulfilment of the Plan. During the First Five-Year Plan the target for Small Savings collections of Rs. 225 crores was exceeded by nearly Rs. 17 crores. Thus Small Savings helped to finance about 12 per cent of the First Five-Year Plan outlay. The Small Savings target under the Second Five-Year Plan is Rs. 500 crores. Collections during the first and second years of the Second Plan total nearly Rs. 133 crores averaging Rs. 66 crores a year as against 41·5 crores during the preceding five years. This is an indicator that the target is not impossible of achievement.

During the year 1957–58 it may safely be estimated that the comforting message of Small Savings has been carried over 6 lakhs of homes in Madras State. Net collections in the year aggregated to Rs. 7·85 crores. The Agency force also rose from 300 to nearly 13,000 during the year in the State. This compares with the total All-India Agency force of 58,000.



The Cumulative Time Deposit Scheme in savings was inaugurated on 2nd January 1959 at the General Post Office by Sri R. Venkataraman, Minister for Industries. Sri R. Venkataraman is seen making his first deposit in the savings bank.



The Cumulative Time Deposit Scheme in the Savings Bank at the Mount Road Post Office was inaugurated by Srimathi Sakuntala Subramaniam on 2nd January 1959. Photo shows Srimathi Subramaniam making her first deposit.

The Savings Organization ceaselessly strives to cater to the multiple needs of the investing public in the search for security. The requirements of the small saver who might be in no need to obtain a quick return of his capital, are admirably served by the 12-Year National Plan Savings Certificate. This certificate is the Savings Security par excellence, for capital and interest are allowed to accumulate till maturity, yielding 5·41 per cent interest. The 10-Year Treasury Savings Deposit has its principal appeal to investors who may be desirous of a regular annual income for meeting current expenditure while concurrently ensuring that capital is left untouched. The 15-Year Annuity Certificate offers an immediate annuity to the investing annuitment. The Post Office Savings Bank is the 'Peoples Bank', as a Savings account can be opened with a minimum deposit of Rs. 2. The Gift Coupon Scheme covering National Plan Savings Certificates has been devised as a means of combating social pomp and ostentation with its attendant waste. The Gift Coupon is the Gift that keeps on giving. Savings Stamps afford the humblest in the land an opportunity of participation in the Savings Scheme. Small Savings is therefore tailored to suit every pocket and to cater to every need. It is particularly timely to keep in mind the durable satisfactions of Small Savings Securities, viz., security of principal, indestructibility of security, guaranteed rate of interest and freedom from market fluctuations. Recognizing the need for imparting the character of pledgeability to Small Savings Securities, the National Plan Savings Certificates and Treasury Savings Deposit Certificates have been made pledgeable with the Reserve Bank, Scheduled Banks, Co-operative Societies and Banks, and Corporations & Companies in which Government hold shares to the extent of 50 per cent or above.

The interest yield on all Small Savings Securities, as also the annuity amount under the 15-Year Annuity, are not liable to Income-tax and Super tax, besides not being taken into account in arriving at aggregate income for determining the relevant income-tax bracket.

Small Savings investments are exempt from being included in net wealth for purposes of levy of Wealth tax, provided such assets were held by the assessee for a period of at least six months ending with the relevant valuation date.

As the need for a scheme of monthly recurring deposit had long been keenly felt, a new Small Savings Security called the Cumulative Time Deposit Scheme has been marketed with effect from 2nd January 1959. This

Scheme provides for monthly deposits in the Post office of Rs. 5—Rs. 200 subject to a maximum of Rs. 12,000 for an individual and Rs. 24,000 in joint accounts. The medium of the Pass Book has been introduced thus eliminating any possible complaint from the sophisticated small saver. A depositor of Rs. 5 per month becomes entitled to receive a lump-sum of Rs. 325 and Rs. 725 at the end of five years and ten years, respectively. In respect of five-year deposits, the interest yield works out at about 3·3 per cent (compound) and in respect of the ten-year term at about 3·8 per cent (compound). Besides, the interest on this security is income-tax free. A depositor, subject to the overall limit of Rs. 12,000, can have any number of accounts in his own name or jointly with another. Withdrawals, limited to 50 per cent at credit of the account, in multiples of Rs. 10, are permitted once in a five-year account and twice in a ten-year account, after the first year of the account. The amount withdrawn is to be deducted at 6 per cent interest from the maturity or cumulative amount. Failure to deposit the monthly instalment, provided such default does not exceed five in a five-year term or ten in a ten-year term, has the effect of extending the date of maturity of the account by the number of months for which default has occurred.

The Post Office National Savings Certificate Rules have been amended with effect from 1st January 1959. Limits of investments in 12-Year National Plan Savings Certificates have been raised for Scheduled Banks, Co-operative Banks, Registered Firms and Companies from Rs. 15,000 to Rs. 25,000. In respect of charitable institutions the limits have been raised from Rs. 60,000 to Rs. 1,00,000. With the advent of the Cumulative Time Deposit, a single individual can invest as much as Rs. 1,05,000 in Small Savings Securities. This limit is doubled in the event of a joint investment being made.

The procedure formerly prescribed for pledging National Plan Savings Certificates has been considerably simplified and stands reduced to endorsement on the certificate itself.

Legislation amending the Post Office National Savings Certificates Ordinance, 1944, is scheduled to be introduced shortly in Parliament providing for—

(i) Statutory 'nomination' by the holder to entitle the 'nominee', in the event of death of the holder, to receive the proceeds of National Plan Savings Certificates, or balances in Post Office Savings Bank Deposits or Cumulative Time Deposits.

(ii) The stocking and sale of Savings certificates by other institutions, besides the Post office.

The progressive formation of Savings 'Sells' or 'Groups' in all places where people congregate for work contributes to the rhythm of the Savings Process. In Madras State there are now functioning over 1,500 Savings Groups with a total membership of 34,500. Contemporary accent on the Payroll Savings Plan has been sustained by the recent amendment of the Payment of Wages Act, permitting deductions from the wages of employees with their consent for the express purpose of investment in Small Savings Securities.

Being responsive to the maxim of consumer sovereignty, some of the institutional rigidities and procedural cobwebs of the Small Savings Movement have yielded in priority to a new streamlining. The Movement bids fair to entice the Savings Rupee.

(*Continued from page* 13)

The development of handicrafts is also given due importance considering the traditional beauty, workmanship and fine quality and a number of schemes for the development of art-metal, bell metal, sculpture, paper toys, ceramics, fancy leather goods, printing and dyeing druggets and carpets, ornamental handles, etc., are being implemented. Marketing of finished products is also given priority and sales depots are proposed to be opened in the districts.

Sericultural activities are being extended in Tenkasi area of Tirunelveli district and Gudiyatham taluk in North Arcot district. Hosur in Salem district is the important centre in the silk industry of the State, after the transfer of Kollegal to Mysore State.

Industrial co-operatives for small scale and village industries started with Government subsidy have made good progress in the field of handpounding of rice, pottery, oil industry, tannery, handicrafts and metalwares. One thousand and four hundred jaggery manufacturing co-operative societies, with a target of 24·71 lakhs maunds of jaggery for 1958–59, have already produced 15·42 lakhs maunds up to November 1958.

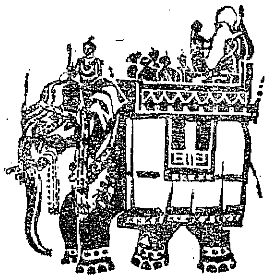
The craftsmen training schemes implemented through a number of industrial training institutes located throughout the State are providing full-time and part-time courses. They are already turning out a large number of technical personnel for manning these industries. The gap between the turnover and the manpower requirements will be bridged. The implementation of the schemes included in the Plan is sure to lead industrial development and there can be no doubt that Madras will before long gain an important place in the industrial map of India.

WILD LIFE PRESERVATION

It is Madras State which leads India in formulating Acts in connection with the Wild Life Preservation. In 1873 an Act to safeguard the white elephants was enacted.

PROHIBITION

Madras is the first State to introduce Prohibition. In 1937 the campaign was inaugurated in Salem district. During the Advisor's regime it was scrapped and was again introduced in 1946 and gradually extended to the entire State.



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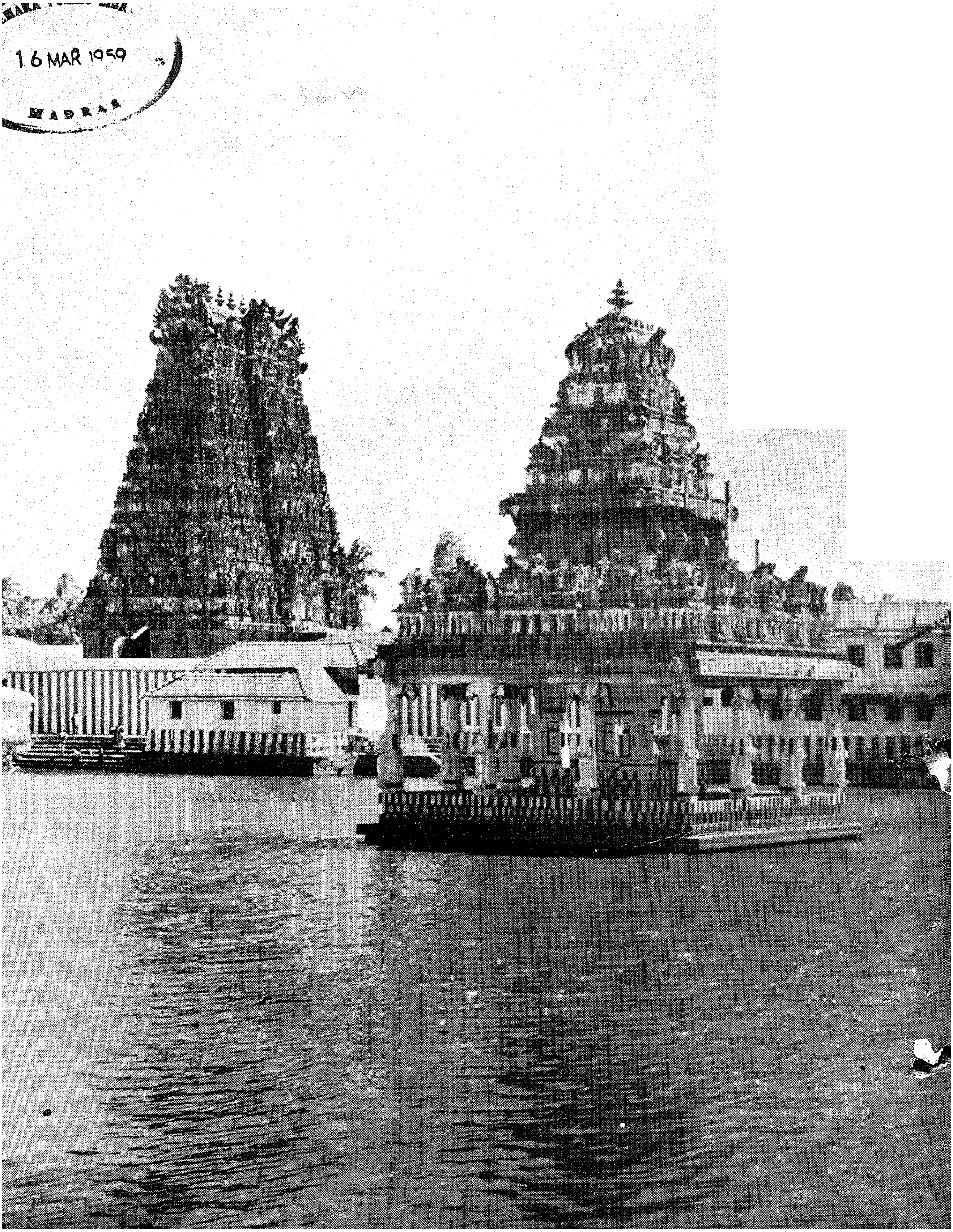
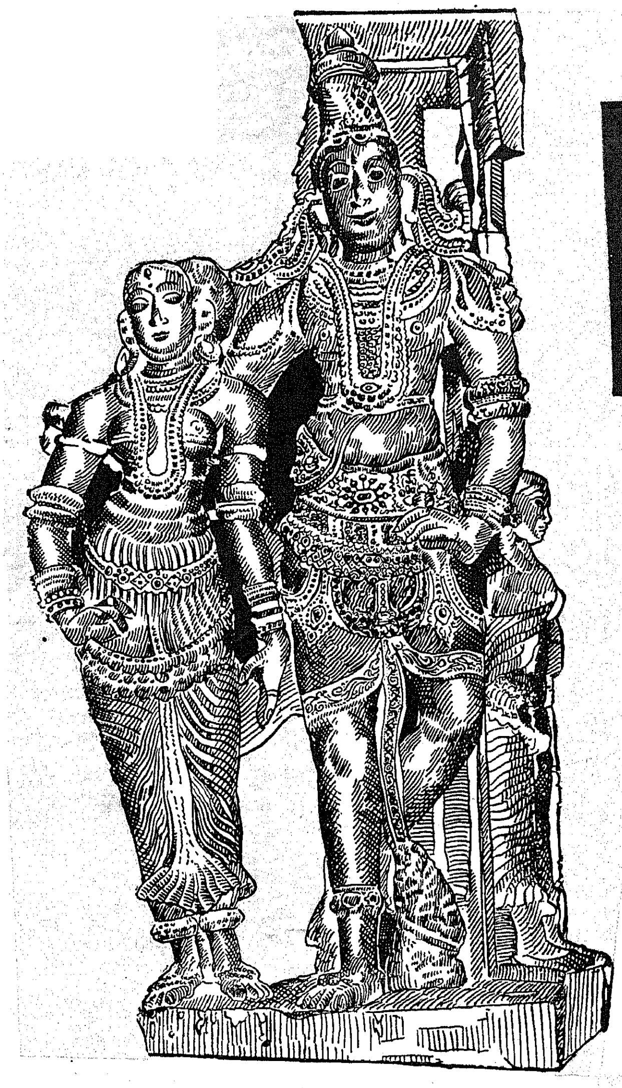
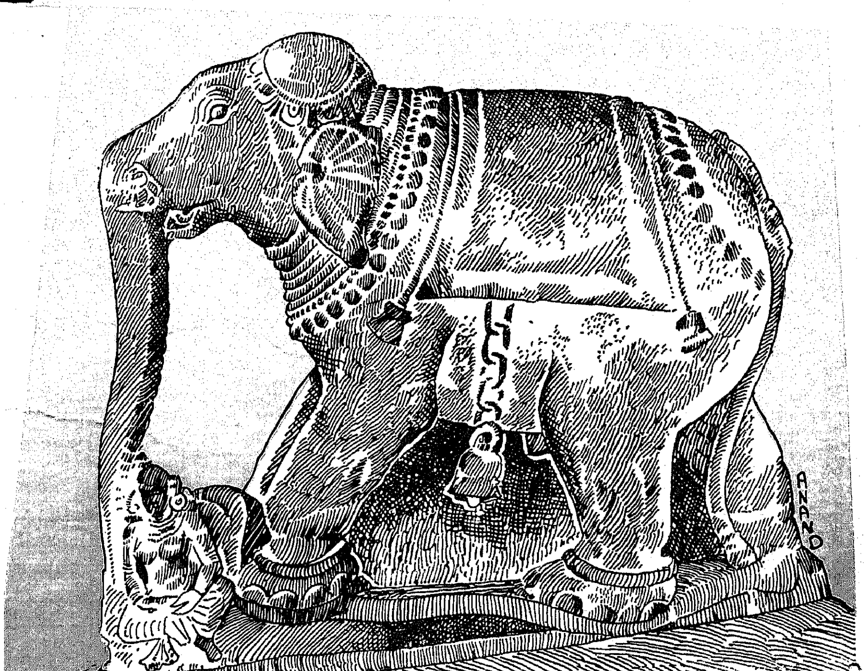


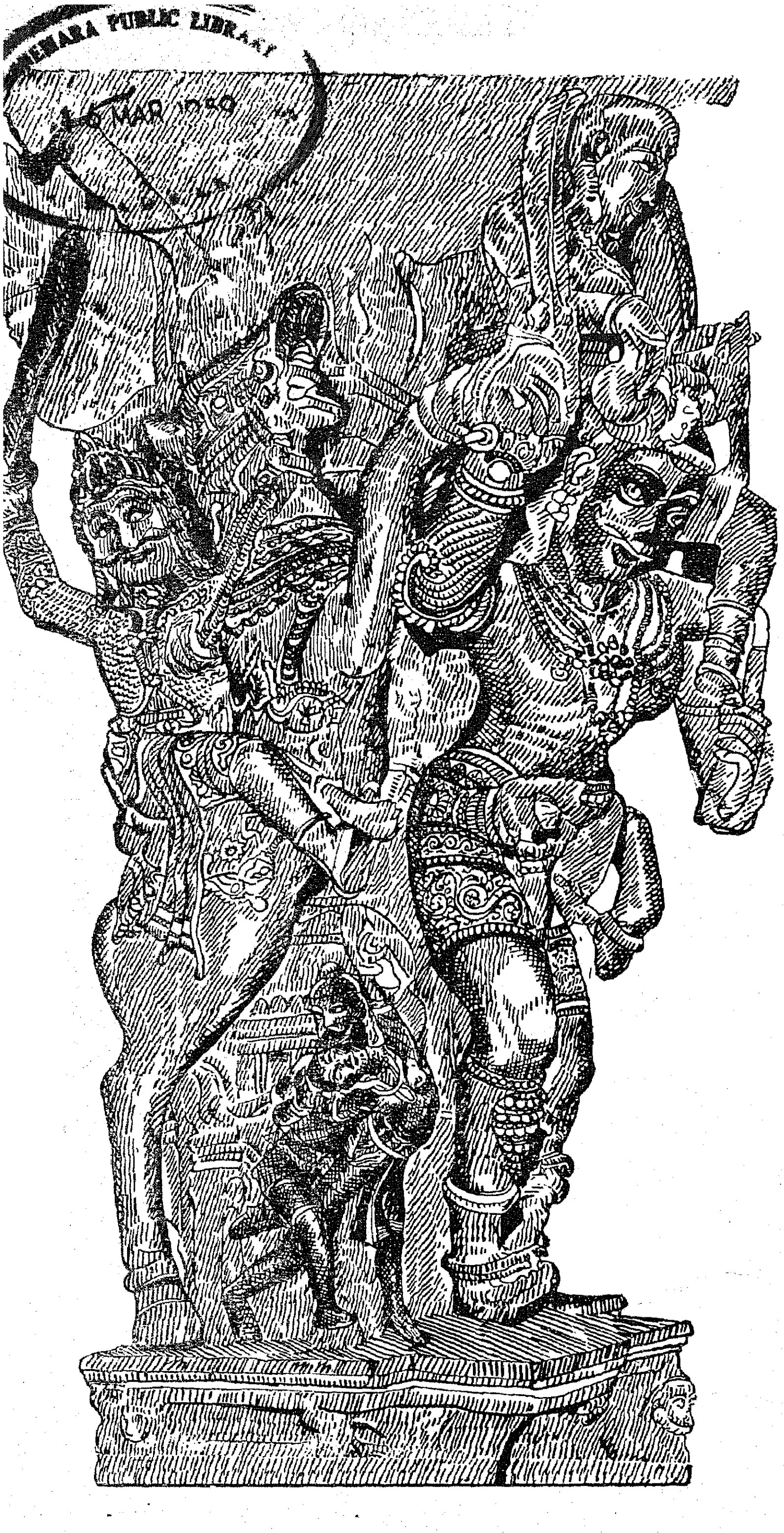


The Tales THE Stones Tell

In the temples of Tamil Nad great pieces of sculptures are found in good number. The sculptor has not created them just as he pleased. Each piece of sculpture has a story of its own. It tells a story too. If only, one has time and resources to delve into the mysteries of the past one can reap a rich reward of tales.

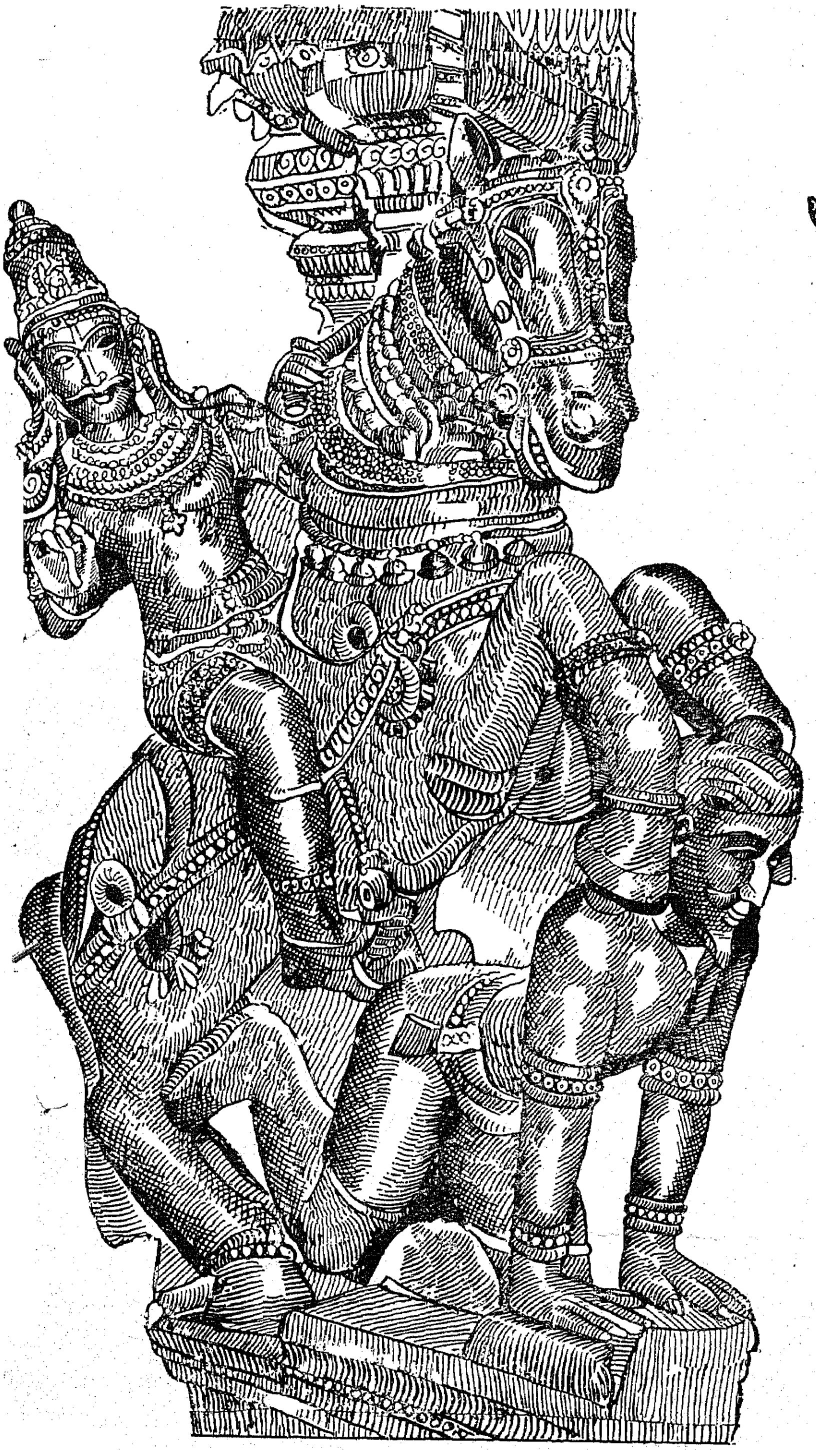
There is a temple at Krishnapuram, about ten miles from Tirunelveli, one of tho southernmost districts of Madras State. This temple was built in the 15th century by Sri Krishnappa Nayakkar the then ruler of Madurai. He had commissioned some famous sculptors from Vizianagaram and they have left behind a wonderful collection of sculptures that tell us tales of heroism, love and tragedy.

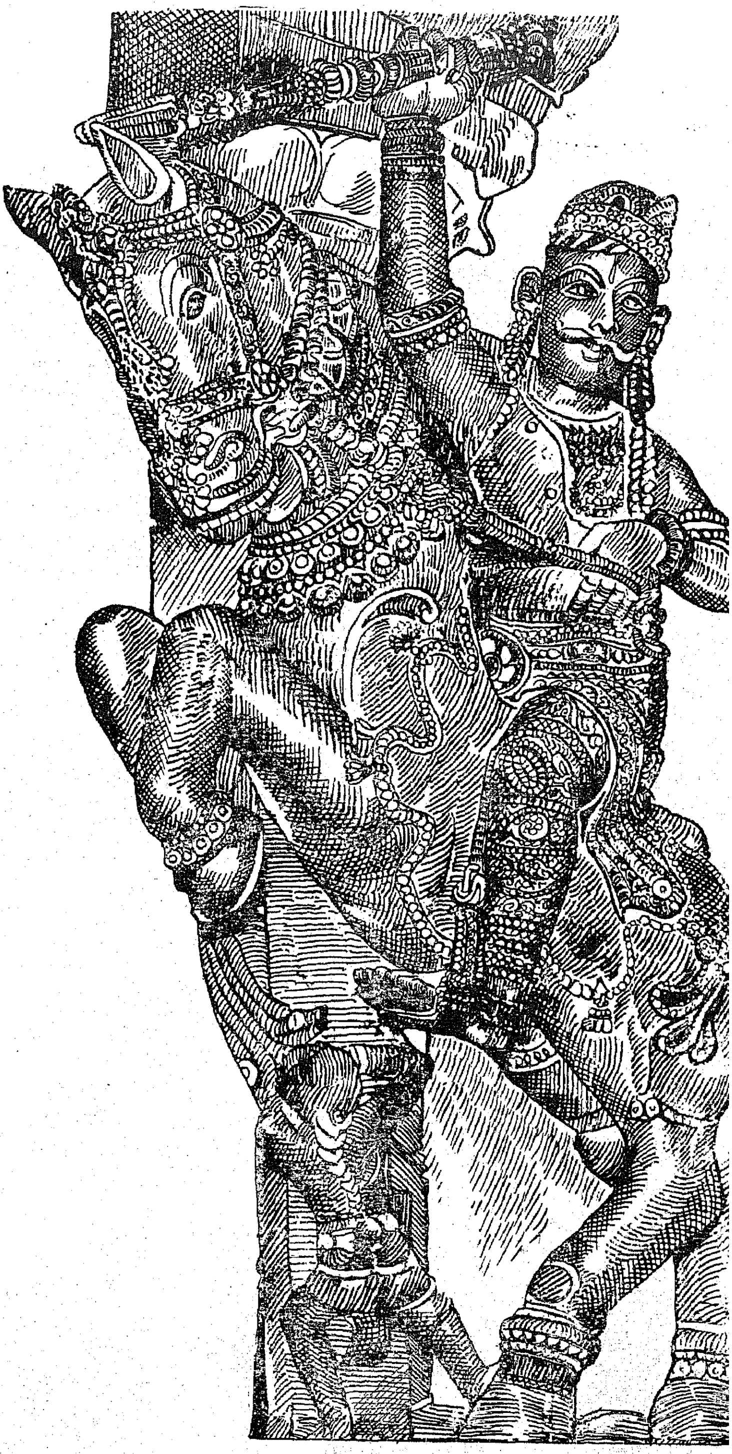




THE KURAVAN

There is a sculpture of a *Kuravan* carrying a princess on his shoulder. The princess is sitting serenely on his shoulder expecting rescue at any movement. And the guards are racing after him and they have neared him. They are careful lest they hurt the princess and the rider controls his horse in such a way that it rears up. The guard has raised his sword and is ready to strike down the *Kuravan*. There is a gash on the side of the *Kuravan* where the hoof of the horse has hit him. The sculptor has taken advantage of a red streak in the stone to depict the stream of blood flowing from the wound.

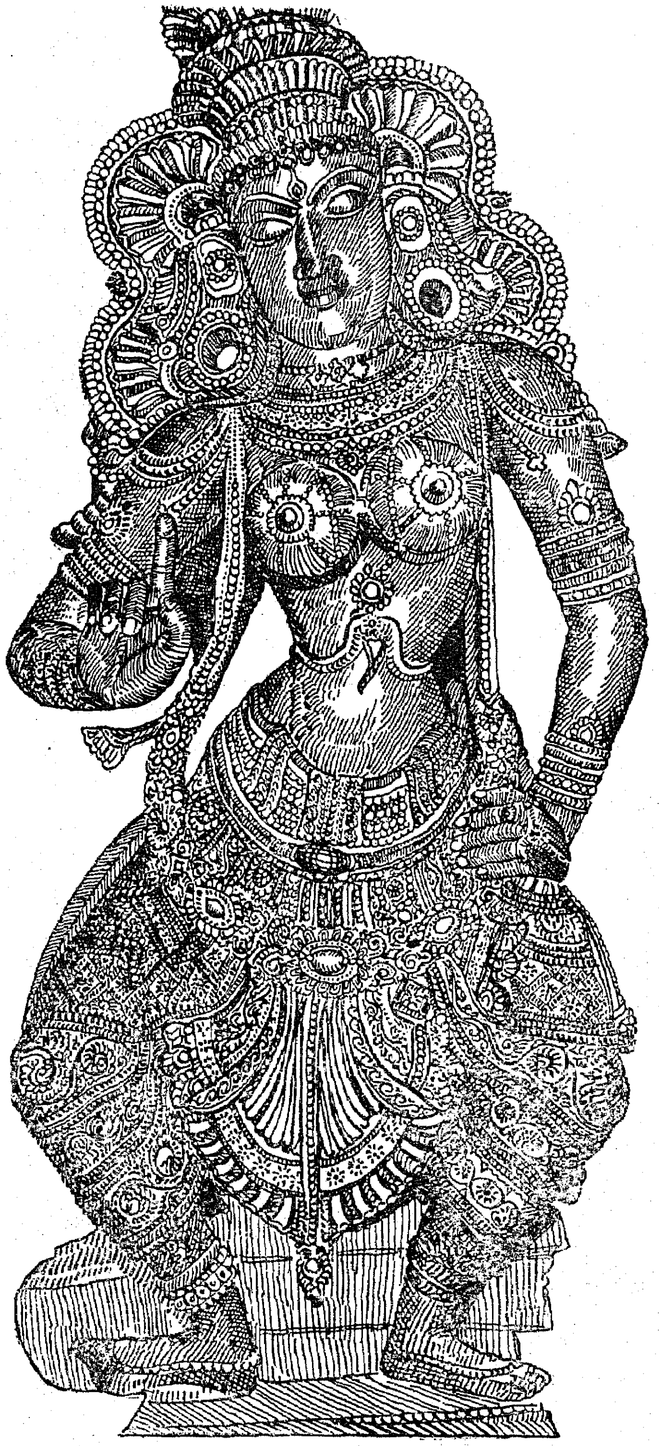


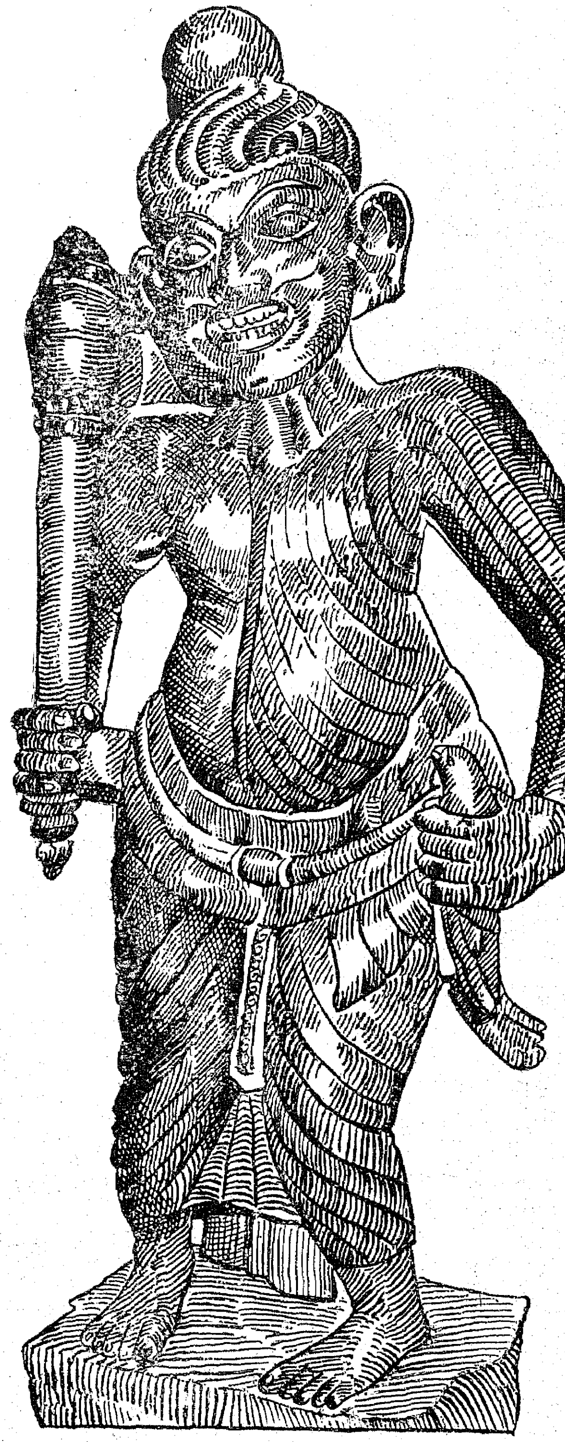


AND THE PRINCESS

One of the smaller pieces shows one of the guards fighting with a friend of the *Karavan*. There is another piece which shows one of the *Karavan's* friend lying in the path of the guard and preventing him from reaching his friend.

The end is obvious. The princess is rescued and the *Karavan* is brought to book. But the sculptor has not wasted his time on the obvious.

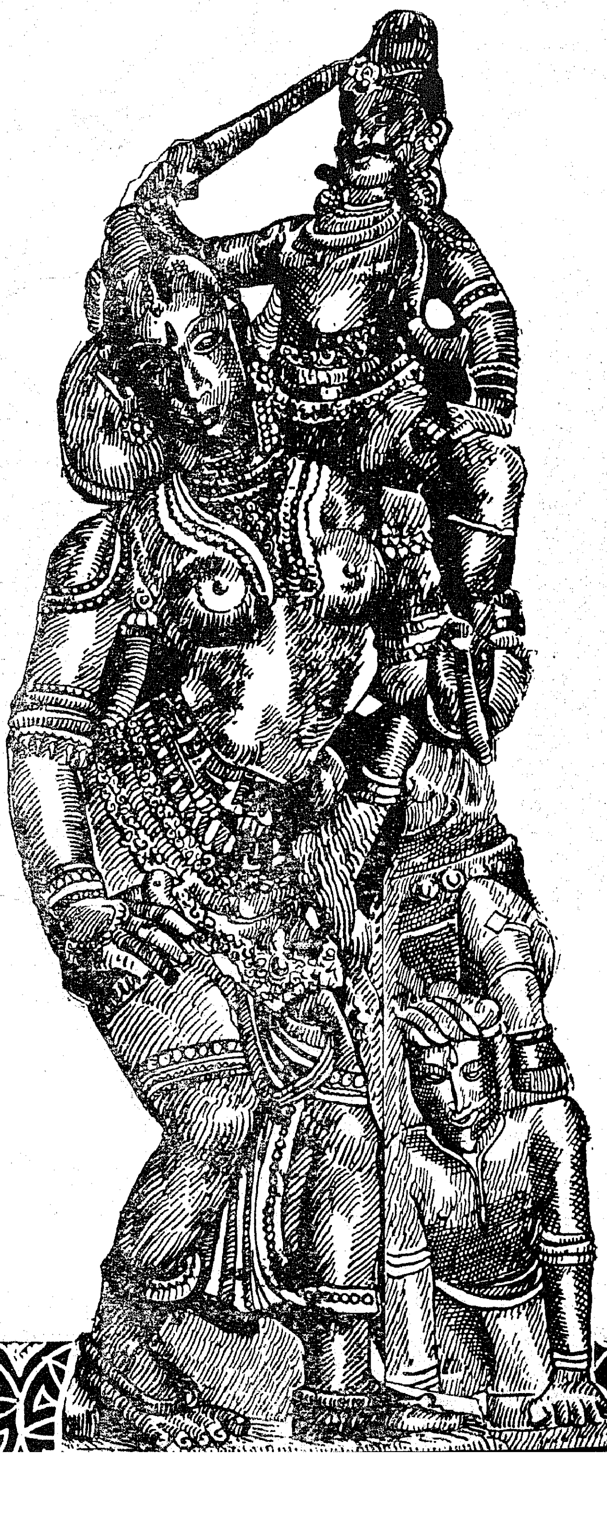




THE PRINCESS AND THE SAGE

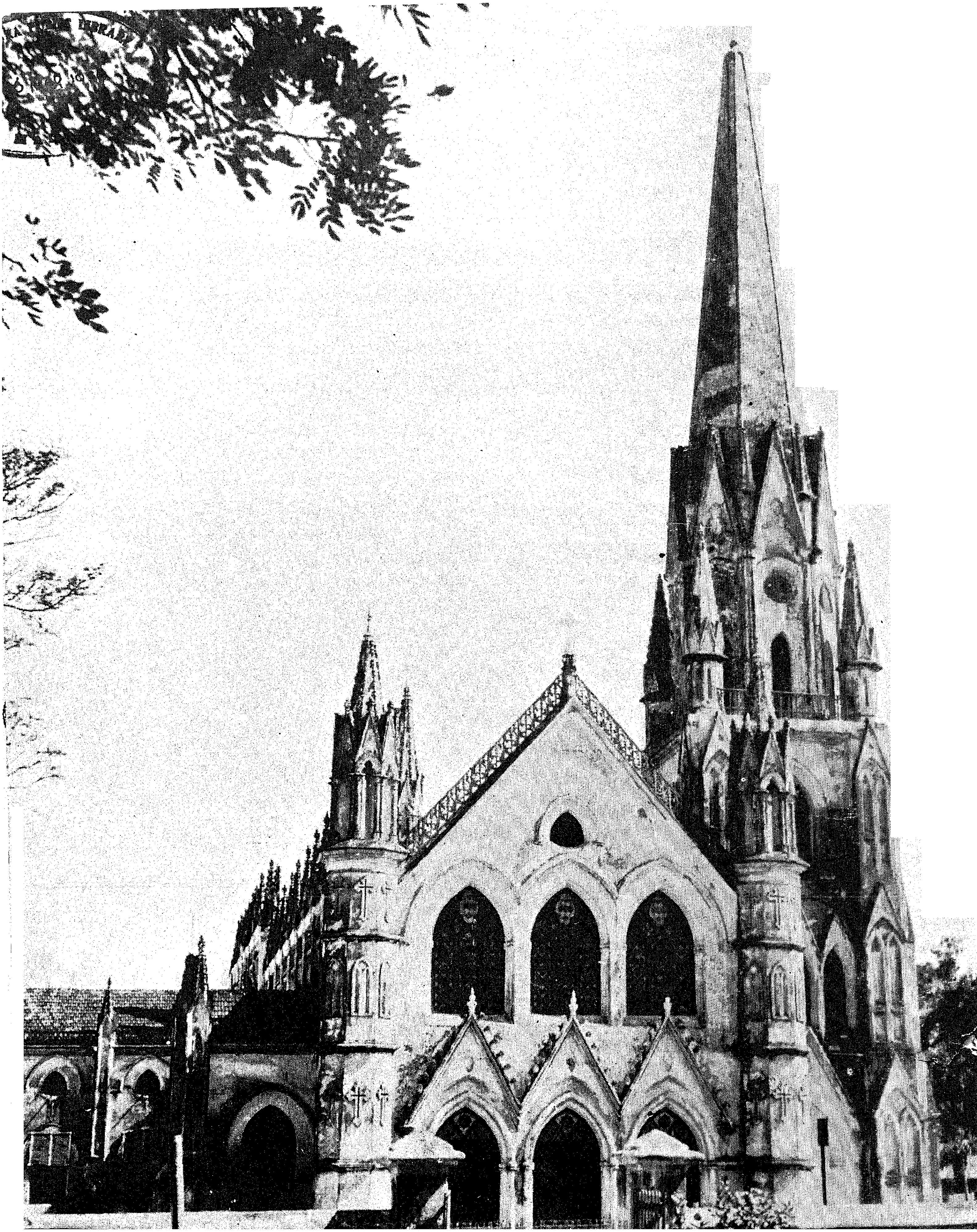
The sage was a very handsome young man. No wonder the Princess fell in love with him. But the sage thought that she was a nuisance and a hindrance to his *tapas*. After trying all sorts of tricks to avoid her, he thought of making her loathe him by transforming himself into an ugly being.

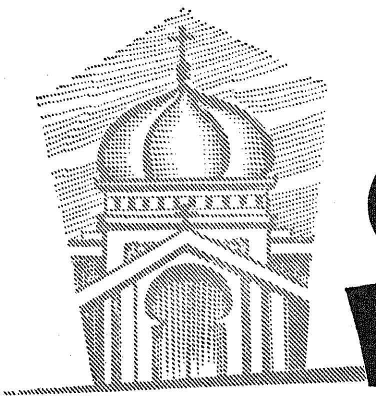
But the princess was not to be deceived. She said that she loved him for what he was and whatever shape or form he assumed she would go on loving him. Finding that the Princess truly and really loved him, the sage assumed his natural figure and, so the story goes, they lived happily ever after.



THE KURATHI AND THE PRINCE

There is not much of a story here. But it is obvious that the *Kurathi* is abducting the Prince. And the Prince apparently is happy and at the same time awed by the imposing strength and figure of his abductress.





Christian Monuments in Madras

Dr. M. AROKIASWAMI.
Reader in Indian History and Archaeology, University of Madras.

Christianity has had a long history in Madras and the numerous monuments left here down the centuries speak for themselves. In spite of all historical speculations and age old controversies with regard to the arrival of St. Thomas in Madras in the middle of the first century A.D., the Cathedral dedicated to his name stands full square in San Thome bearing testimony in some way to the truth of this historical advent of this Apostle of Christ. Built and consecrated in 1896, this specimen of excellent gothic architecture stands exactly over the small original chapel dedicated to St. Thomas where, it was piously believed, the remains of the saint were laid to rest.

Centuries before the Portuguese, from whom the first well-known Christian missionaries of South India landed in Madras, travellers and pilgrims from Arabia, Syria, England and Europe had come here from as early as the sixth century A.D. There is indeed a work in Syriac written by Zadoe, who calls himself " priest, monk and archmadrite " of the monastery of St. Thomas, to which reference is made by all early visitors to San Thome[1]. This work is entitled " Life of Hermit Yonan " and was written before 363 A.D[2]. From this early period onwards numerous pilgrims, lay as well as religious have made their visit to Madras. Many of them are well-known people. The name of Marco Polo, the great Venetian traveller of the thirteenth century, is certainly an eminent one. Recording his visit to Mylapore on the " south-eastern coast of India " he says, " Christian pilgrims carry away earth from the spot where the saint was killed, and this they afterwards employ in cases of tertian and quartan fever, and by the Grace of God and through the merits of the saint, these maladies are cured[3] ". The tradition of the tomb of St. Thomas in San Thome gathered mass with the advance of time and we find the Bishop of Cochin, whose jurisdiction included San Thome in 1600, ordering that the priest in charge of the chapel over the tombs should himself sweep it[4].

Such is the historical importance of the great cathedral of St. Thomas, which stands as a monument of the antiquity of Christianity in Madras. During several excavations conducted at the spot an ancient stone image of St. Thomas, as it is supposed, was discovered lying over the tomb stone of his grave. The spot has also yielded many Jain and Vaishnavite images of olden times, which are still preserved in the museum of St. Bede's High School close by. All these certainly bear evidence to the antiquity of the place. In fact the history of Madras itself begins from Mylapore and San Thome than from Fort St. George and the Esplanade. The Alvars and the Nayanmars sang about the glories of Mylapore when that only was the present City of Madras and tradition again associates the great Tiruvalluvar only with Mylapore.

As if connecting the old and the new another Christian monument lies across the river Adyar near Saidapet. The well-known Marmalong bridge connecting Saidapet with the Government House at Guindy was laid across by a Christian philanthropist, Petrus Uscan, in the year 1726 for the benefit of the public making their visit to St. Thomas Mount. An inscription in stone embedded in a pillar at the northern end of the bridge records in Latin, Arabic and Armenian the name of the builder and the purpose of the building. The Latin part in the middle reads as under:—

HUNC PONTEM
EDIFICARI JUSSIT
PRO BONO PUBLICO
COJA PETRUS USCAN
NATIONE ARMENI
ANNO SALUTIS
MDCCXXVI

Here Petrus Uscan tells us his name, his nationality, the year and the purpose of the construction—an example of a concise record, full in its brevity and attractive in its simplicity.

1 This monastery is mentioned in Syriac works as Madrastha, Madrasth, and Madrasa. It is just possible that the very name Madras has its origin from this.

2 Labourt ; *Le Christianisme dans l' Empire Perse*, p. 306.

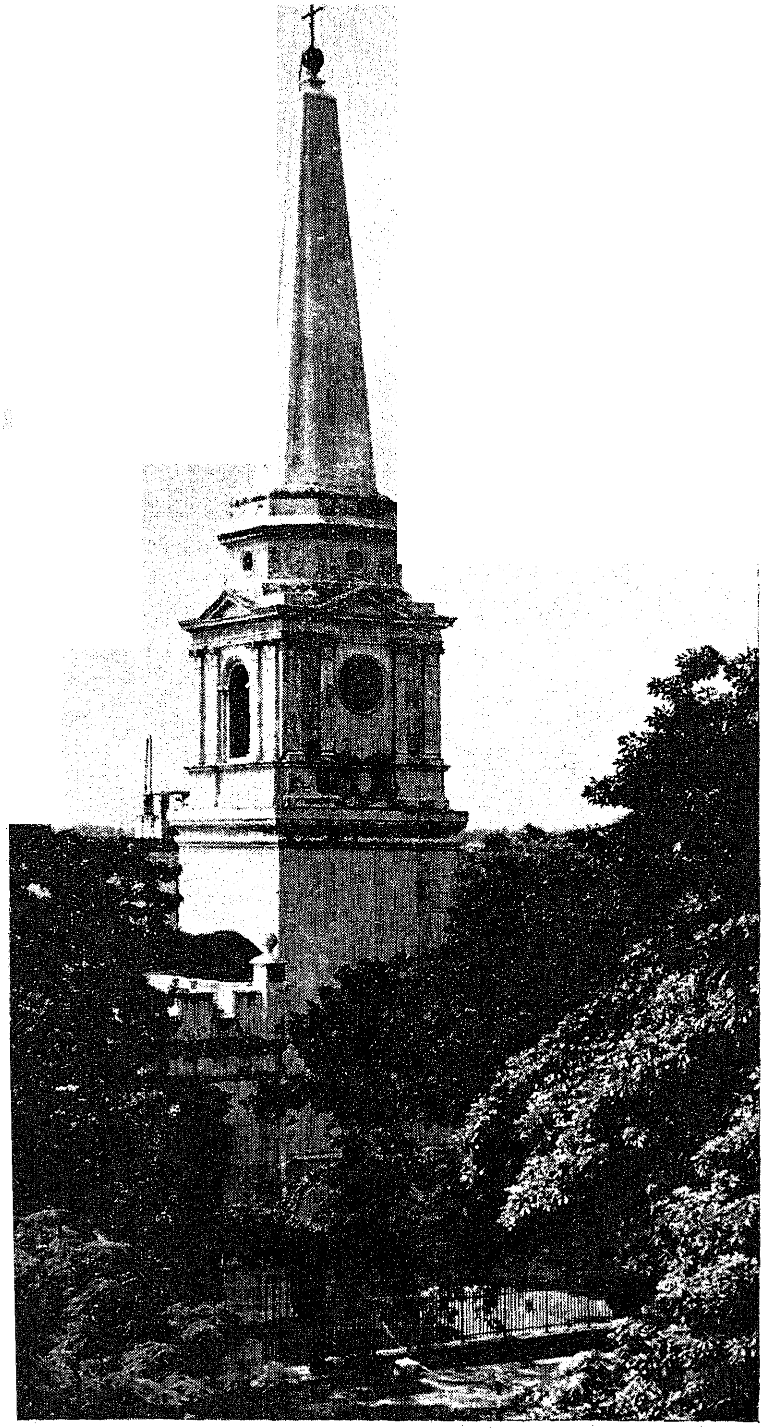
3 Quoted from Zaleski ; The *Apostle St. Thomas*.

4 D' Souza ; *In the steps of St. Thomas*, 58.

← *San Thome Cathedral.*

in Ispahan in 1680 he lived exactly 70 years, dying in Madras in 1750 (some say, 1756). From Madras he established trade connections all over India and was deeply loved by all the native powers of the period and also the English for whose love he had to lose nearly thirty-three houses which he possessed in Madras during the French war with the English when the former destroyed all of them. He evinced great sympathy for the poor for whose benefit he caused a church to be erected in Vepery [1]. When he died, his remains were indeed buried inside this building which he had built for the poor. It was this same sympathy that made him build the Marmalong bridge in 1726.

This bridge over the Adyar is one of the longest bridges in Madras. It is still flanked by old wooden railings, that could have been renewed long ago. But thereby hangs a tale. Uscan in his death-bed had left a will by which he left 1,500 pagodas to be invested in some safe place for the repairing of the bridge from time to time and for the maintenance of a keeper of the bridge, who was expected to watch over it. The executors of the will, however, invested the money in the Vestry of St. Mary's Church, Fort St. George, and it could not carry out the intentions of the testator.



St. Mary's Church, Fort St. George.

The principal work of the Vestry was the care of the Church and its furniture, the school building and the houses belonging to it and the residence of the chaplain. It was responsible for the payment of the Church and school officials and it held in trust a fund for charitable and educational purposes. This did not mean that it was incapable of undertaking any kind of trust work, but with its meagre staff and particular sphere of action it was unequal to the task entrusted to it by the executors of Uscan's will. Two of the early chaplains of St. Mary's, William Stevenson and Charles Long, had expressed their difficulty in acting as "bankers and official trustees" [2]. Nearly thirty-five years after Mr. Long had expressed his difficulty to be a trustee of a private estate the Vestry undertook to discharge the same function with regard to Uscan and it went the bad way. For nearly fifty years the Vestry Council carried on the trust tolerably well doing repairs when necessary and paying a bridge-keeper, taking care of the choultry attached to it, etc. But even in doing so, they never spent the full interest that accrued from the capital [3]. In the last decade of the eighteenth century, however, the trouble started. The Vestry had lent out its money to two local English firms and they were unable to pay up. Mr. Roebuck, a free merchant, residing in Madras, submitted a proposal just at that time for widening the bridge at a cost of about 3,000 pagodas out of the interest that had accumulated on Uscan's money. The Vestry had no other way but to accept its inability to carry out the project for want of funds. The matter was taken before the Supreme Court which ordered that a sum of 8,780 pagodas (to which Uscan's money had totalled during the period) to be paid into the Court by the Vestry. Two points

The Marmalong bridge is thus not only a Christian monument in Madras but also an Armenian one. An Armenian by race and a Christian by faith Petrus Uscan was the son of Coja Uscan, an upright merchant in Madras in the mid-eighteenth century, when trade knew not much of morality or justice. Born in Julfa

1 Over the spot where this church stood now stands the Church of St. Mathias in Vepery. It still houses the tomb of Uscan.
2 Ft. St. George Consultations, Feb., 1714-15, July,1719.
3 Penny; *Church In Madras*, I, 539.

were raised in the argument against carrying out this injunction and they were accepted as being sufficiently convincing' :—

(1) That the Vestry was the concern of the Church and the public had no say in its matters; and

(2) that when money was accepted by the Vestry it was only in payment of interest thereof with no liability to pay back the capital.

In this way ended the benefit which Uscan wished to confer on Madras and curiously enough the bridge was left uncared for, for long after this enquiry into the Vestry muddle.

The entire village of St. Thomas Mount to which Uscan's bridge was intended to lead is a Christian monument in Madras. The place has acquired celebrity long before the English made it their strategic military post, as the place where St. Thomas died and from very early times pilgrims had flocked to the spot and many Armenian and Persian Christians had established settlements here. Tomb stones at the foot of the hill give evidence of these early settlements and Marco Polo lets us know that numerous Christian communities lived at St. Thomas Mount even in the thirteenth century, when he visited the place. The historian D'Orcey writing in 1893 says:—

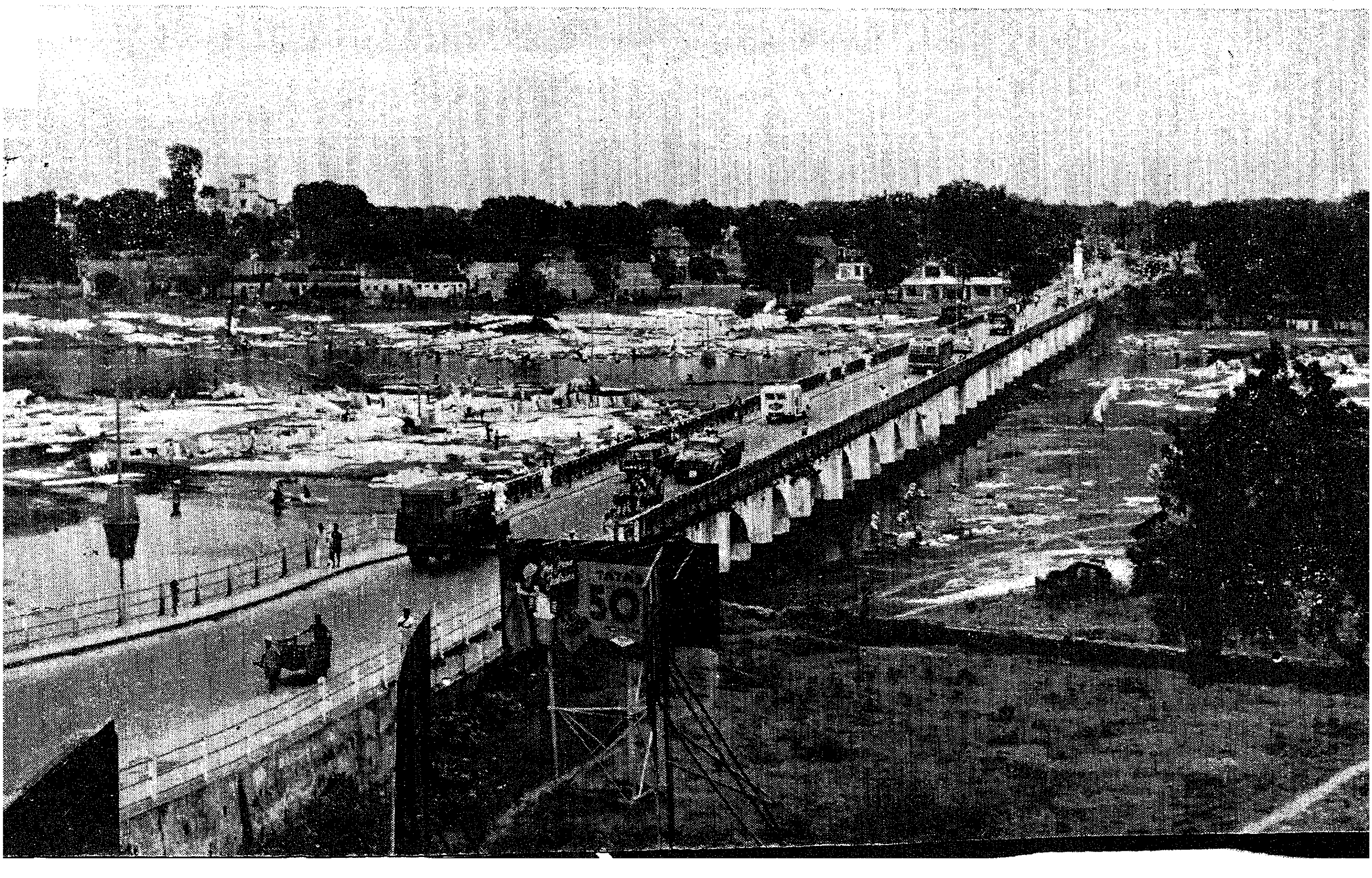
"To this day and from time immemorial the City of Meliapour, to which the Christians of India have given the name of St. Thomas, sees every year the two neighbouring hills (meaning Little Mount and St. Thomas Mount close by each other) covered by a multitude of Christians, old and new, who flock thither from the coasts of Malabar, from Ceylon, from the most distant parts of India and even from Arabia, to deposit their offerings and to pray at the shrine of the Holy Apostle[2]."

It is said that about 1450 when the Moslems invaded Madras, there was a severe battle at St. Thomas Mount between the Christians and the invaders, with the result that the former lost their dwellings in the mount and had to repair to Pulicat eighteen miles north of Madras. When the Portuguese arrived in Madras one of the very first things they did was to bring these Christians back to St. Thomas Mount. The Portuguese took possession of the hill in 1545 and from that day and due to that reason it is still known in the vernacular as "Parangimalai", the word "Pharangi" referring to the Portuguese.

Two objects of attraction on the hill to the historian and the tourist are the "bleeding cross" and the picture of the Madonna said to have been painted by St. Luke, an Apostle of Christ, and preserved in the Church on the top of the hill. The former is a stone cross on which the blood of St. Thomas is said to have splashed when he died and the wonder is that it is said to have sweated blood every year on the 18th of December—

1 Penny; op., cit., 541,558.
2 D'Orcey; *Portuguese Discoveries*,

The Marmalong Bridge.



probably the day when St. Thomas died. This seems to have happened till the close of the eighteenth century and we have letters of the Jesuits who were residing here speaking to the veracity of it[1]. One of the Portuguese journals of the period also refers to this. This cross is still to be seen on the mount. It bears an inscription in Sassanian-Pahlavi dating from a period anterior to the sixth century A.D. Many unsuccessful attempts have been made by scholars of repute at deciphering this hieroglyphics. In 1908, however, two Professors have translated the inscription independently of each other and, if what they say is to be accepted, it seems to refer to the Christian doctrine of redemption through Christ: " Through the Cross the Messiah brought salvation to the world."

In the last quarter of the seventeenth century, the famous St. Mary's Church within the Fort St. George was built. It forms an important mark in the sky-line of Madras. It is also to be considered as a historical monument for various reasons. It is the first Christian church built by the English in India. It was built and blessed in 1680. A governor lost his job by it. In the years preceding 1680 was Governor of Madras Streynsham Master. He was as independent as he was religious. He decided to build this church and carried his council with him. They decided upon it and arranged in the settlement for the cost of it without consulting the Company in any way. The Home Board of the East India Company under the chairmanship of Sir Josiah Child resented this and he felt that the time had come to remove Master from office. The year after the opening of the church, Master was relieved by Gyfford and Child writing to Gyfford afterwards reminded him of the pride of his predecessor recommending to him incidentally a greater humility in office. Child remarked characteristically that " Master was too big for his position ". Lastly this church is to be remembered for the great work of charity which emanated from its Vestry to which reference has already been made in this paper. Though it was responsible in some way for losing Uscan's money, its record of work was generally good. As an example we may cite an entry found in its records for the year 1805[3] :—

	PAGODAS.
Balance at beginning of year	5,573
Interest	4,766
Church Collections	943
Cemetry Fees	110
Sunday Boat hire	359
Poor Fund Subscriptions	953
Sundries	218
	12,922

	PAGODAS.
School	2,147
Church	1,176
Poor Relief	2,093
Bridge Repair	58
Sundries	210
	5,674
Credit balance	7,248
	12,922

This church has been described as " a treasure-trove " for the historian, because of the numerous tombs of great men, like Pigot, Munro and Hobart (all Governors of Fort St. George) which it contains and many marble tablets of historical interest which it houses. There are two remarkable marble statues—of the famous missionary Schwartz and the great General Conway—in this church. A nice picture of the " Last Supper " done by a pupil of the master-painter, Raphael, said to have been brought from Pondicherry after the English capture of that city also hangs in this church. The most interesting point to remember about this place is, however, that Robert Clive, the founder of the British Empire in India, was married in this church in Madras.

1 Letters edifiantes, 1781.
2 Gouvea's Jouruada.
3 Quoted from the records kept in Fort St. George pertaining to the Vestry of which 7 volumes remain.

(Continued from page 15)

The need for finding a formula for promoting amity and better relations between employers and workers and for securing industrial harmony has been under the consideration of the Government of India for some time. The subject was discussed by the Standing Labour Committee and the Indian Labour Conference more than once. It has been agreed to by the representatives of the employers as well as labour that they should subscribe to a Code of Discipline for the purpose. A draft Code of Discipline was finally evolved at the 16th Session of the Indian Labour Conference held at Nainital in May 1958 and at the 17th Session of the Standing Labour Committee held at Bombay in October 1958. Copies of the Code have been communicated to all the important organisations of employers and employees and they have been requested to adhere to its provisions. The officers of the Labour Department have also been instructed to see that the provisions of the Code are observed by the employers as well as the employees.

The Second Five-Year Plan attaches considerable importance to the constitution of joint standing consultative bodies at various levels. The consultative bodies functioning at the All-India level are the Standing Labour Committee and the Indian Labour Conference with representatives of labour, employers and Government. The State Labour Advisory Board is the most important consultative body at the State-level to which all important problems affecting labour are referred for advice. These bodies as well as the Labour Ministers' Conference meet periodically and consider appropriate measures for further improvement to ensure to labour its legitimate position in the country. The objective is increased association of labour with management in respect not only of industrial relations but of increasing productivity. However, labour problems will continue to exist in the future perhaps on a much larger scale, but with goodwill and understanding on the part of employers and workers, it is possible to find satisfactory solutions to them.

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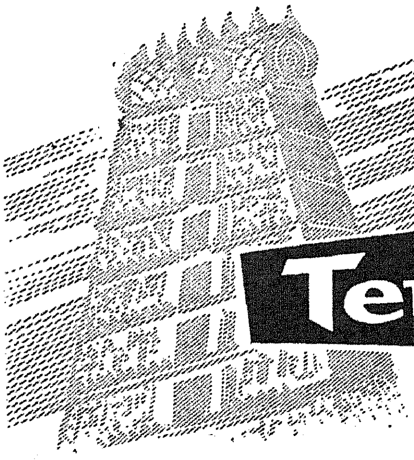
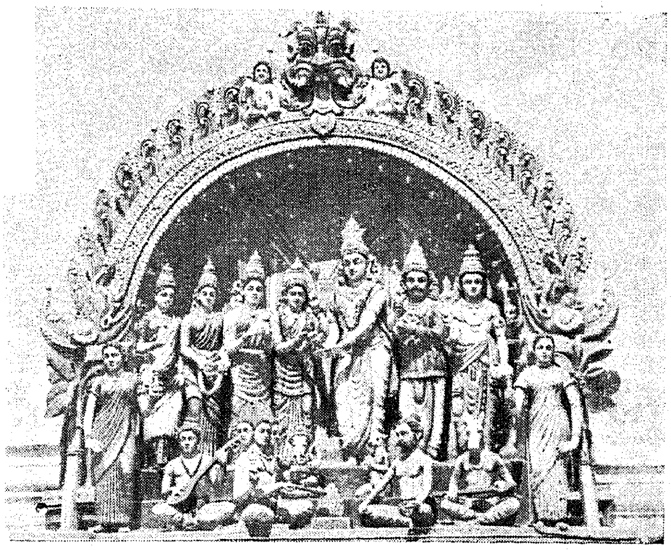


Temples in TAMILNAD

Sri T. M. BHASKAR TONDIMAN, I.A.S.,
Collector of North Arcot.

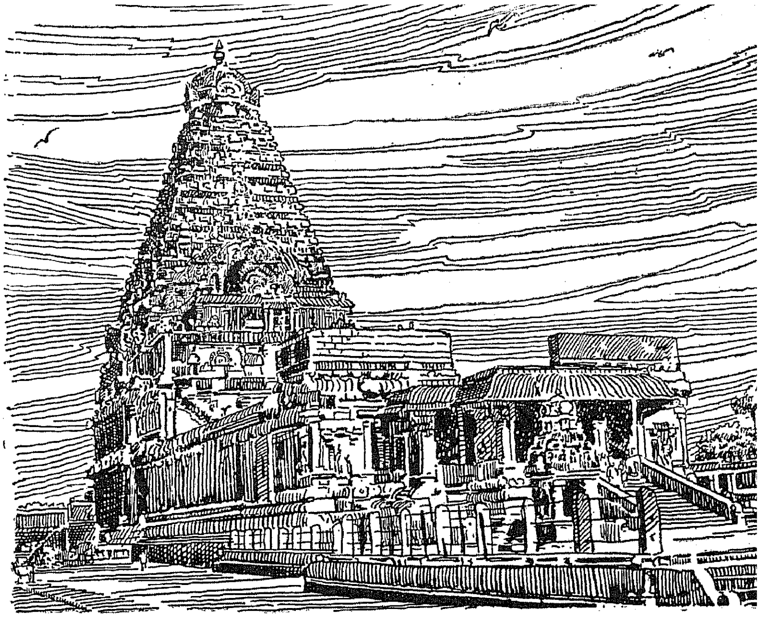
There is a good little story in the Periapuranam of Sekkilar. The story is quite simple. Rajasimhan, a Pallava king at Kancheepuram, had a desire to construct a temple for Lord Siva. He pooled together all the resources of the State and started the construction of a big temple at Kancheepuram for Kailasanathar. A poor old man, Poosalar by name, was living at Tiruninravoor, a place few miles away from Kancheepuram. He also had a burning desire to construct a temple of his own. He was such a poor old man that he could not even make both ends meet. He cogitated over the matter and finally thought that he could construct the temple in his mind itself. On the day, when Rajasimhan started laying the foundation of the temple, Poosalar also started construction of his temple by laying the foundation for it in his *mind*. The construction of the temple started by Rajasimhan was progressing well. Many of the famous sculptors of the Tamil Nad were hard at work. Outer Prakarams were laid Mahamandapam and Arthamandapam were constructed Garba Graham and the Vimanam over it were all wel planned and executed. Rajasimhan was personally supervising the entire work and the minutest detail in the construction of the temple received his personal attention. Poosalar also did not shirk in his work He was also constructing the Mahamandapam, Arthamandapam, Garba Graham, Vimanam and all the adjuncts of a temple—all in his mind, of course Finally, the construction of the temple started by Rajasimhan was completed and a date was fixed for the Prethishtai (installation) of the deity. As luck would have it, Poosalar had also fixed the same date and hour for the installation of the Lord in the grand edifice raised within his mind. The night before the date fixed for installation, Rajasimhan retired to bed with a contented heart that he had achieved a great task of constructing a big temple for Kailasanathar at his Capital. But the Lord appeared in his dream and advised him to postpone the ceremony of installation as He had to be present at the installation in another temple constructed by Poosalar at Tiruninravoor Rajasimhan had no other option except obeying this command. What a wonderful conception about the preference of God for His abode ? It is hailed by all that the poet Sekkilar was able to give a concrete shape to an abstract idea that " God is within you "—oft repeated by all saints and philosophers of the world.



The Facade of the Temple at Perur in the Coimbatore district

It is these ancestors who conceived the construction of temples within their own mind, have also chosen to build great edifices as the abode of the Lord. Such temples are scattered all over the Tamil Nad today and they speak volumes to the devotion and foresight of our monarchs and their subjects. Though there is mention in Silappathikaram, a classic of the second century A.D., about the existence of temples for Siva, Vishnu, Indra and Balarama, they have all disappeared, presumably washed away by the sea.

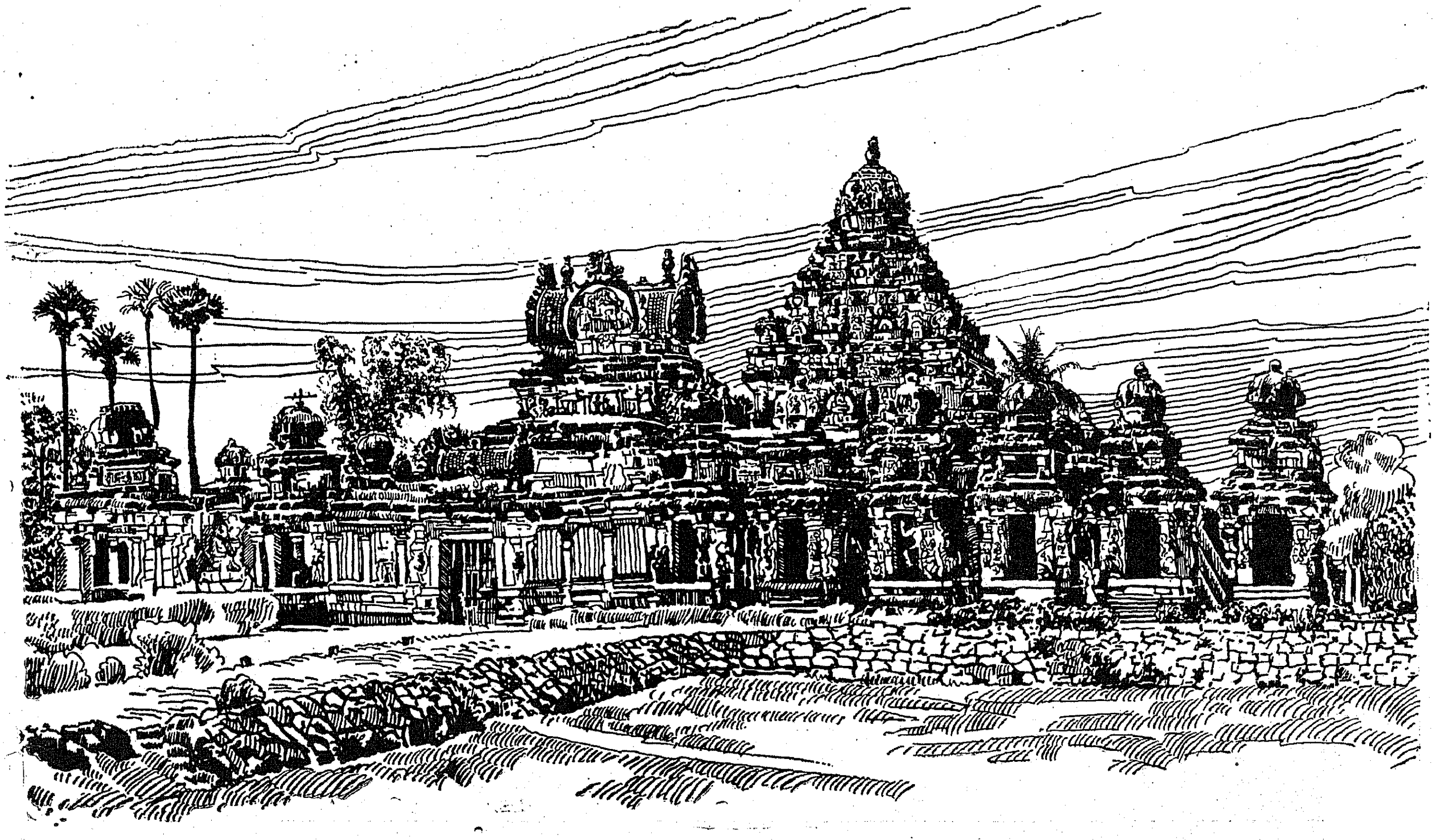
Pallava kings are the pioneers in temple construction and they get the singular honour of carving temples out of hard rocks. It was given to Mahendravarma Pallavan of the sixth century A.D., to cut a Chaitya out of a rock at Mandakapattu in South Arcot district and inscribe in it his desire to carve temples out of rocks, as the temples constructed with brick and mortor, stone and wood, had all decayed. This was followed by other rock-cuts in Mamandur in North Arcot district, Singavaram and Dalavanur in South Arcot district, and Sittannavasal and Rock Fort of Tiruchirappalli district. When Mahendravarman started carving chaityas out of rocks, his illustrious son Narasimhavarman began chistling out temples and Rathams out of rocks and we have thus before us the rock-cut temples and Rathams of Mahabalipuram. I need not repeat all, what others have said about Mahabalipuram. These monolythic rock-cut temples contain some of the robust specimens of sculpture, executed in South India. The figures of Arjuna absorbed in Tapasya, of the Mahavishnu in the recumbent pose, of Mahishasura Mardhini in attitude of war, all reveal the power and beauty of the art of the Pallavas. Though religious in inspiration, the sculptures of this period were nevertheless rooted firmly in the aesthetic moment, which created much of the lyrical poetry of the Tamils and continued for several centuries. The Pallavas fashioned some of the loveliest female figures ever done in India.



The Brahadeeswar Temple, Tanjore.

They are noted for their inherent grace of stance and rhythm.

The temples of the succeeding period, when the Tamil Nad was under the hegemony of Chola Emperors, are well known for their grandeaur and magnificence. The art of temple construction had reached the climax in



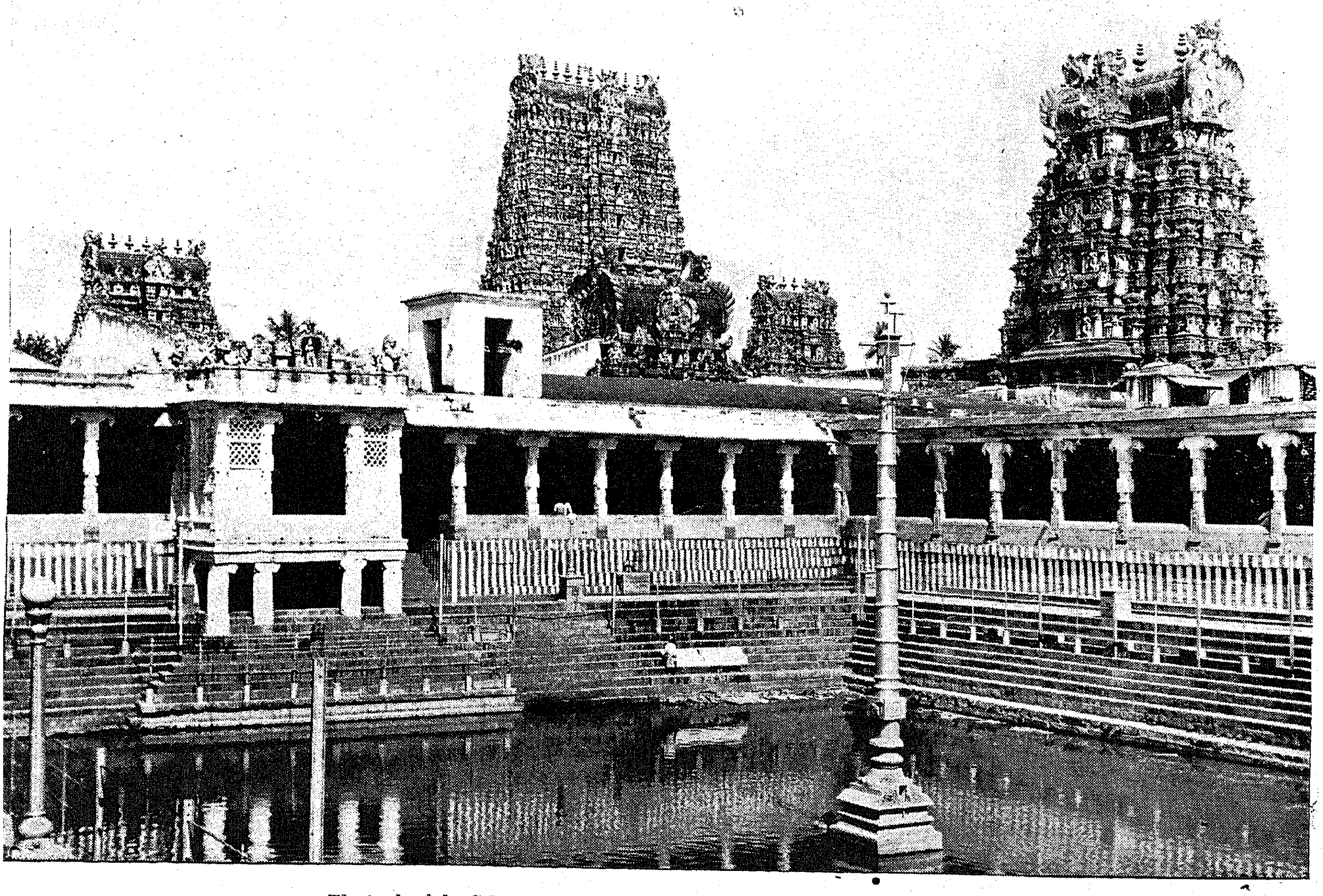
Sree Kailasanathar Temple at Kancheepuram.

the days of the Imperial Cholas, whose period was an Augustan Age in Literature. The temple of Brahadeswarar at Tanjore constructed by Rajarajan the Great and Gangaikondacholechram constructed by his Greater son Rajendran, reflect the spirit of the age, of conceiving everything in terms of Great, Grand and Beautiful. The most brilliant performance of these Chola Emperors was the perfecting of bronze sculptures. These were all made under the inspiration of the great Saiva Saints who popularized the practice of perfecting the temples with votive images of the different aspects of Shiva. The most outstanding specimen of the Chola sculpture is the Nataraja, illustrating the process of world creation and dissolution in terms of Dance and Rhythm. The traditions of Chola Emperors were carried on by the Pandiyan rulers also. But it was given to the Naick rulers who held sway over the South, to construct a good number of temples all through the Tamil Nad. We have before us today the magnificent temples of Madurai Meenakshi, Sreerangam Ranganathar, Tirunelveli Nellaiappar, etc. The grandiloquent gopurams constructed by them for these temples speak volumes about their devotion to majesty of scale and intricacy of detail.

The temples of Tamil Nad are not merely architects' handwork for congregation. It is the hub of the life of the Tamils. Around it revolves the social, economic and spiritual life of the community. It caters not merely for the things of the spirit but also of the body. It is a means as well as an end, the end being good life. Look at the pattern of our Town-Planning from the black hills of Venkatam to the blue waters of Kanyakumari. Everywhere the temple is at the centre. Life flows in concentric circles until you reach the outer ring of swaying corn fields, from which the community draws its sustenance. Where there is no temple, there is no real cultural life, no healthy social fabric and no adequate economic foundation.

To those who have some acquaintance with the ancient inscriptions of this land, it would be clear how very fallacious is the facile assumption that our temples are mere places of pujas and rituals. To them were attached great institutions of learning. There were halls for disputations of grammarians. There were halls for dissertations of diverse philosophies. There were

(*Continued on page* 83)



The tank of the Golden Lotus in the Sri Meenakshiamman Temple at Madurai.

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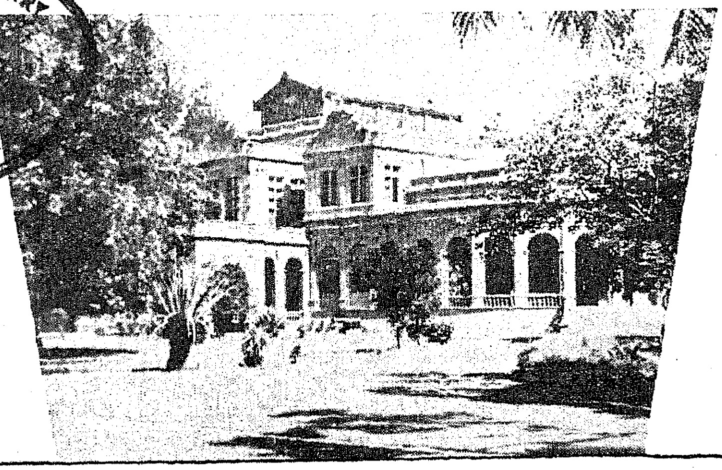


A TREASURE HOUSE OF ANTIQUES

DR. S. T. SATYAMURTI,
Superintendent, Government Museum.

The Madras Government Museum is an institution over which the Madras State may legitimately pride itself, as it is not only a treasure house of rare and priceless antiquities and works of art reflecting the past history and culture of our country, but also a centre which has been constantly radiating knowledge to the public at large in its own quiet way for over a century in this part of the country. The Madras Government Museum had its inception in the year 1851. Its first Officer-in-charge was Surgeon Edward Green Balfour who launched an intensive collection campaign in order to build up the collections in the various sections of the Museum. Since then, the Museum has steadily grown under the guidance and supervision of a succession of able directors. In 1951, the Museum celebrated its centenary, having completed hundred years of useful service to the public. The Centenary celebrations were inaugurated by the Prime Minister, Pandit Nehru, on November 27, 1951. As part of the same function, the Prime Minister also declared open the National Art Gallery, sponsored by the Government of Madras.

The Museum continues to be immensely popular as an educational institution in the City and its activities have expanded enormously in all directions in recent years. The National Art Gallery is an added attraction and with the merger of the Pudukkottai State into the Madras State, the Pudukkottai Museum also became administratively annexed to the Madras Government Museum.

The Madras Museum is organized into the following seven sections: Archæology, Anthropology, Numismatics, Zoology, Botany, Geology and Chemical Conservation. These sections are managed by Curators who are experts in their respective fields. Each of the first six sections contains extensive collections illustrating mostly the Culture and Natural History of South India. Some of these are displayed in the public galleries, but a large part of the collections are kept as reserve for study and reference purposes.

Zoology.—The Zoological section is one of the largest sections in the Museum, handling the collection, preservation, storage and display of all types of animal forms from the lowly organized one-celled protozoan to the gigantic whale. Although its scope is mainly limited to South Indian fauna, a few interesting specimens of foreign animals have also been added to the collections, particularly in recent years. Among the more important recent acquisitions to this section, mention may be made of a pair of African Bustards, a pair of Monal, the American Raccoon and an Ostrich.

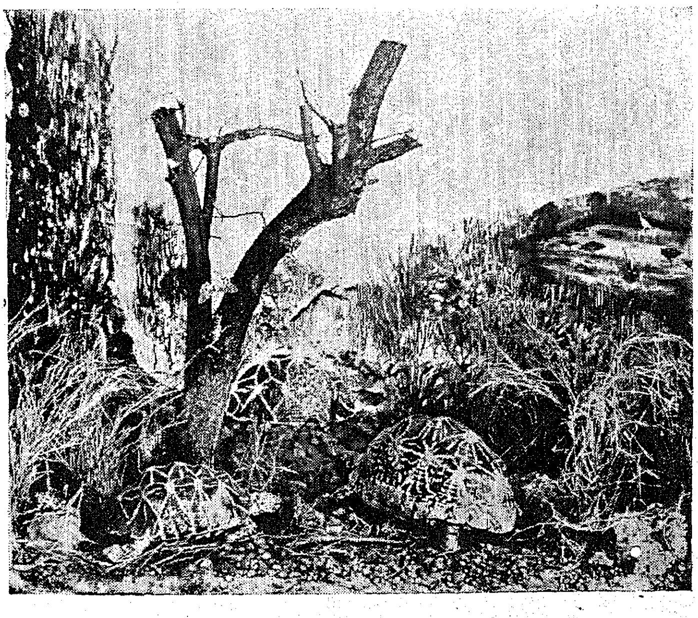
Reference collections.—In addition to the exhibited specimens, the section maintains a large and valuable reserve collection for study and research purposes. These collections are mostly preserved in alcohol or formalin and are stored in the reserve collection rooms. They are particularly rich in marine fauna collected from the Gulf of Mannar area. Dry collections of insects of most of the common South Indian species are maintained in insect cabinets and are made available for study and examination by students and research workers.

At the Government Museum, bronze images are cleaned through an electrolytic process which is very effective. These pictures show a bronze image before (left) and after such treatment (right).

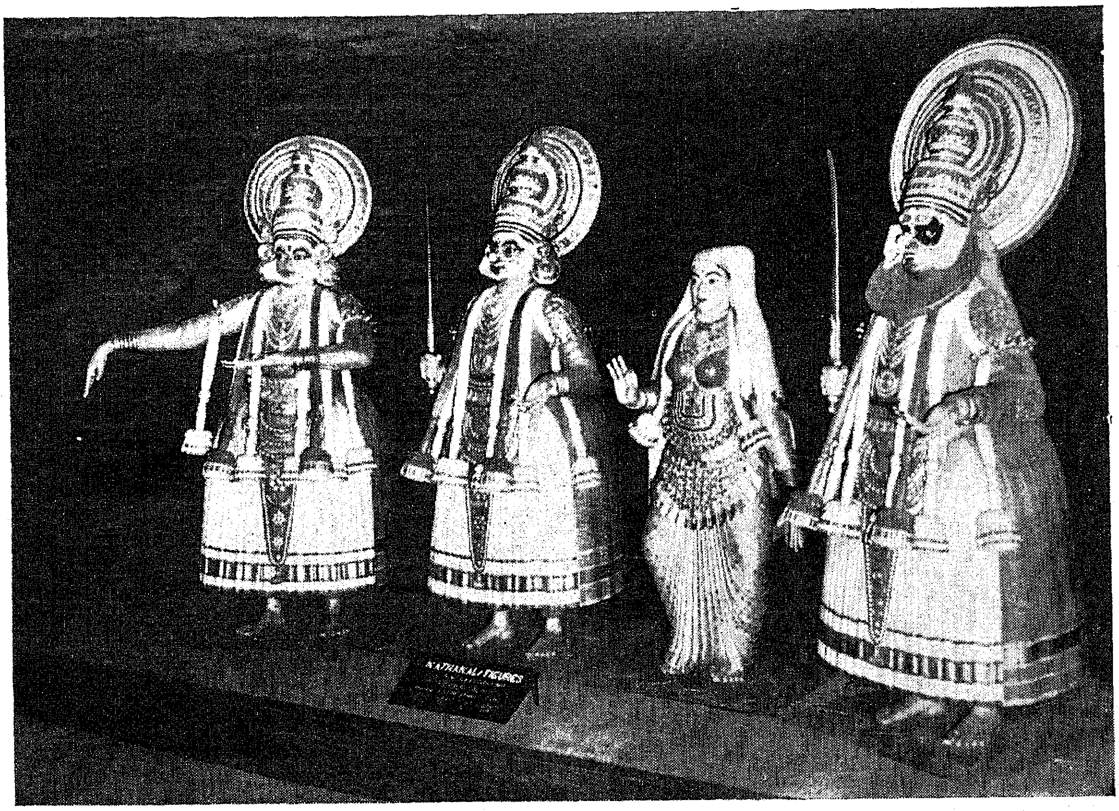
Preparation of exhibits and preservatory work in the Zoology section.—A glimpse into what is being done in the preparation rooms of the Zoological section in this Museum may be interesting as the exhibits which the visitor sees in the galleries are only the finished products of various technical processes, which are carried on "behind the scenes" as it were. Taxidermy is one of these difficult arts involving the careful skinning of the carcasses of birds and animals, the preservation of these skins and their final shaping and mounting in life-like form. Such work demands a keen eye for animal form, expert manual dexterity and a high degree of mechanical skill, and very often a knowledge of photography, carpentry, modelling and painting helps considerably in mounting up an animal satisfactorily. In modern museums, apart from taxidermy, moulding and casting biological specimens in plaster and wax, forms an integral part of the preparatory methods, as plaster and wax models painted accurately in their natural colours make pleasing museum exhibits which have a definite advantage over spirit-preserved specimens, in that they retain their colour and form almost permanently. Attempts are therefore being made in this Museum to prepare more of these casts, particularly of reptiles and fishes, though the techniques involved in their preparation are difficult and an expert artist is required to paint the finished models in their natural colours. Two cases full of painted casts of snakes have been prepared and put up in the Reptile Gallery and many of these models look quite life like. Small illuminated dioramas with painted back grounds and with the animals set in their natural setting in an artificially modelled foreground have also been prepared and are proving to be very attractive.

Botany and Geology.—The Botanical galleries include systematic, ecological and economic sections. In the Economic-Botany gallery, a large number of vegetable raw materials, forest products, timbers, indigenous drugs and cottage industry products are exhibited. The Geology gallery is also subdivided into various sections. The General Geology gallery deals with the surface architecture and structural details of the earth. In the section devoted to stratigraphy, samples of beds of a few geologically important strata, and of fossils of different geological ages are displayed with adequate explanatory labels. In the gallery devoted to Economic Geology, many interesting specimens such as gem stones, gold ores and building stones attract the attention of the visitors. Some exhibits which specially interest the layman in this gallery are the meteorites, a plaster model illustrating the internal structure of the earth, a gigantic fossil *Ammonite* (which is allied to the living cuttlefish) and a model of the herbivorous dinosaur, *Brontosaurus.*

Numismatics.—The Madras Museum is noted for its large and unique collection of coins, particularly of South Indian and Mughal coins, but for reasons of security only plaster cast impressions of some of the more important types of coins have been displayed in the public galleries. The earliest Indian coin represented in the Museum cabinet is the Purana or the Punch-marked coin, dating back to the sixth century B.C. The Gupta coins are specially interesting, being mostly of gold and bearing inscriptions in classical Sanskrit which appear for the first time on Indian coinage. A very rare find recently acquired by the Madras Museum was a hoard from Dowlaishwaram, a place near Rajahmundry, consisting of 127 gold coins 49 of which belong to the Eastern Chalukyan ruler, Raja Raja I and the rest to his son, Kulothunga Chola. This section also has a good collection of historical documents, seals and medals.



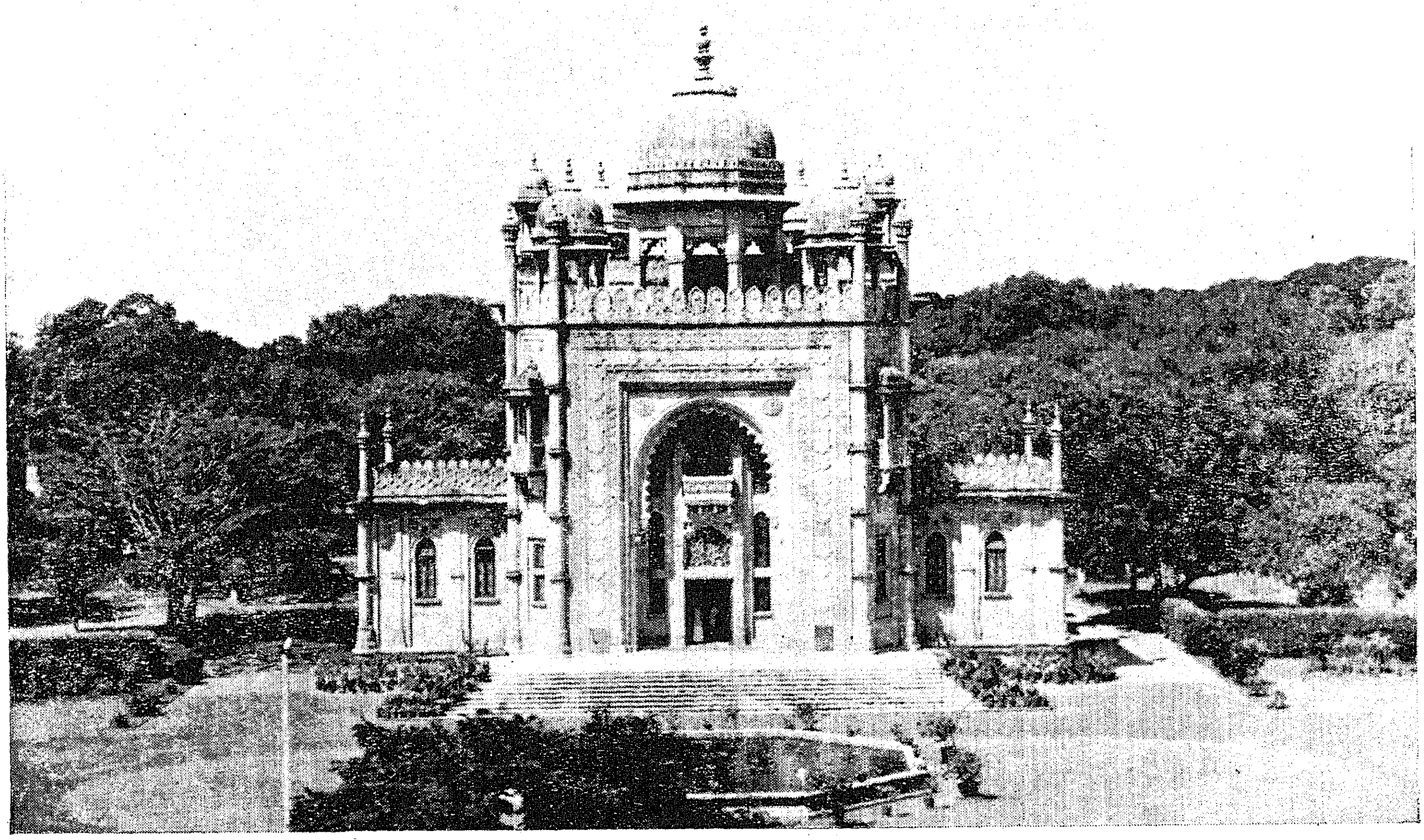
Diorama of the Starred Tortoise in the Natural History Gallery.



Kathakali figures in the Ethnology gallery.

Archaeology.—The Archaeological section of the Museum is a centre of attraction particularly for foreign visitors. It is concerned with the acquisition, preservation, study and display of sculptures, antiquities and allied objects pertaining to the various periods of South Indian History. The specimens in this section consist of sculptures in stone and metal, inscriptions on stone and metal, architectural pieces, paintings, wood carvings, metalware and a few manuscripts. The most ancient antiquities of the historical period of South India consist mainly of the Buddhist relics from Andhradesa of which the beautiful Bhattiprolu crystal reliquaries and the inscribed stone caskets which contained them deserve special mention. The Buddhist sculptures from Amaravati, form by far the most interesting and important record not only of the development of the artistic activities of South India during the five centuries from about 200 B.C. to about 300 A.D., but also about the social life of the people of those times so that period is not attested by any indisputably authentic written records. The galleries devoted to South Indian bronzes constitute another remarkable part of this section. Exquisite specimens of art are on display here. Of these the most notable ones are the Dance of Siva (Nâtaraja) and the Rama groups. In the whole world this Museum may be said to be the only institution where hundreds of specimens of bronzes of a single area are available to be studied and relished under a single roof.

Anthropology.—The Madras Museum is among the earliest of institutions in India and abroad where ethnology and pre-historic archæology are represented as museum subjects. The first palæolith in India discovered in 1863 by Bruce Foote, and housed in this Museum is one of a large collection of pre-historic antiquities. An earlier collection acquired in 1878 from J. W. Breeks from the Nilgiris consists of exotic pottery, beads, ornaments, iron implements and bronze vases. Large collections of iron age pottery, iron tools, bronze utensils and gold ornaments excavated at Adichanallur in Tirunelveli and Perumbair in Chingleput and the stone age collections later made by Sri V. D. Krishnaswami, Mr. F. P. Manley and Sri A. Aiyappan have considerably augmented the Museum reserves so that the pre-historic antiquities of this Museum constitute one of the richest collections in the world today. These now form the index collection for reference, study and research for pre-historians from all over India and abroad. Besides, the Museum possesses a large ethnographical collection representative of the tribal and rural cultures of the people of Southern India. This includes models of tribal dwellings, utensils, implements used by tribalfolk, their dress and ornaments. These have been recently augmented by interesting additions such as the Kathakali figures representing the dance-drama of Kerala, the shadow play figures of Malabar and Andhra, models of Lambadi and Gadaba women to illustrate their dress and other objects of the material culture of these picturesque tribes.



The National Art Gallery.

The National Art Gallery.—The aim of the National Art Gallery, which formally came into being in 1951, is to show under a single roof, masterpieces of arts and crafts of ancient South India and to display select works of art of modern times. To begin with, ancient masterpieces of bronzes including the world famous Thiruvelangadu Natesa and minor arts like ivory carvings from various parts of South India contained in the Museum collections were transferred to the National Art Gallery. Paintings and sculptures by modern artists are purchased annually. The most noteworthy among the exhibits in this room are the four exquisite oils by Raja Ravi Varma, the " Temple Steps " in oils by Sri Devi Prosad Roy Chaudhury, the " Mother and Child " by Sri K. C. S. Panikker and the portrait study of Pandit Jawaharlal Nehru by Sri S. N. Chaukur. Of the other paintings on display, the most notable ones are the two old tempera works from Andhradesa and a few pieces belonging to the North Indian Schools of Painting, including a couple of interesting paintings of the Kangra School, a group of four Ragini paintings of the Rajasthani School, and a group of three or four of the Mughal School.

Chemical Conservation.—The Museum possesses a well-equipped chemical laboratory for the treatment and conservation of antiquities and works of art. The valuable antiquities that are received by the Museum from time to time, come very often covered all over with products of decay and corrosion. Even those which are on display in the galleries or kept in the reserve collections succumb to the corrosive influences in the atmosphere and begin to form disfiguring crusts after a time. It is in the Chemical Conservation Laboratory that such antiquities are given proper scientific treatment so that they may be restored as much as possible to their original appearance, and may be protected against further deterioration. The electrolytic process of cleaning ancient bronze images, which has now largely superseded other processes by dint of its superior advantages, has been carefully adopted for the treatment of large bronzes of which the Madras Museum possesses a good collection. Besides bronze images, various other antiquities such as iron implements, copper plates, wooden and leather objects, coins, etc., are also conserved by chemical methods.

Research and Publications.—Research has always been a dominant feature of the activities of this Museum. The results of the researches carried on in the various sections have been published from time to time, notably in the Bulletins of the Madras Government Museum which have raised the prestige of the institution considerably in the eyes of foreign scholars and have brought in several foreign periodicals by way of exchange. In the natural history series, several of our publications have been regarded as standard contributions to the fauna and flora of Southern India while

the Bulletins in the General Series include several valuable monographs on the Archaeological and Anthropological material contained in this Museum.

Educational activities.—Museums which are mere show places are things of the past. There is now a growing awareness, all over the world, of the vital role that museums can play in the education of the child and the adult. In keeping with this modern trend, the Madras Museum has expanded its educational activities considerably during recent years. We are attempting to make the Museum more meaningful and enjoyable to the public in various ways. Some of the means by which the Madras Museum has been trying to make itself more educationally useful are detailed below:—

(i) *Special Exhibitions.*—These are a regular feature of our activities. Special exhibitions are organized from time to time to spot-light any recent acquisitions or to mark special occasions such as the Darwinian Centenary, Wild Life Week, Museum Week and Buddha Jayanti. These exhibitions attract large numbers of school children and help to stimulate their interest in the Museums' collections. Special Child Art Exhibitions are also organized by the Madras Museum to encourage Child Art in the State. The Museum also frequently participates in other exhibitions, e.g., India 1958 Exhibition.

(ii) *Summer Courses in Museum Technique.*—Under the Second Five-Year Plan the Museum imparts practical training in Museum work to two batches of 40 teachers each from schools all over the State so as to help them to organize school museums of their own. This course has become very popular now and teachers are evincing greater interest in the techniques taught here year by year. We have also prepared a comprehensive Handbook on Museum Technique for the benefit of the trainees and it is hoped this Handbook will be released from the Press very soon. The trainees are taught the elements of Taxidermy, modelling, preservative methods and general care and maintenance of Museum exhibits.

(iii) *Lectures to College students.*—Under a scheme recently drawn up by Government under the Second Five-Year Plan, the Superintendent and each of the Curators in the Museum deliver a series of three lectures on subjects in their respective fields for the benefit of students from Colleges in the City. Although the response from the students has not been very encouraging, it is hoped that in course of time, these lectures will become very popular, and proposals have now been submitted for organizing these lectures for a larger audience. It is hoped that these lectures will become a regular annual feature of our activities.

(iv) *Visual Aid Programme.*—As part of the Audio-Visual Aid Programme of the museums, sets of electroplated casts of 32 Indian coins representing Indian Coinage from about the sixth century B.C. to the time of the East India Company, are offered by the Museum for sale to educational institutions with an illustrated booklet which serves as a handy guide to the study of the coins of the dynasties and periods which are represented in the set. The Museum also offers its surplus coins and plaster casts of coins for sale to the public after distributing coins to other institutions under the Distribution Gratis Scheme. Photographs and picture post cards depicting the outstanding exhibits in the Museum have also been prepared and kept for sale. This year, a set of six coloured picture post cards illustrating the common birds of Madras have been prepared and released for sale. This is the first time in the history of the Museum that Natural History Picture post cards have been prepared for sale to the public.

(v) *Loan of circulating collections of paintings to schools.*—Over two hundred and fifty paintings representing the Rajput, the Mughal, the Deccani and the Tanjore schools that where stored in the reserve collection of the Archaeological section of the Museum were divided into sixteen sets. These sets are sent round the thousand and odd high schools in the Madras State in circulation. A set is loaned to a school for six months during which they are displayed prominently in a central place to stimulate in young students an interest in the original works relating to the various traditional schools of Indian painting.

(vi) *Guide Service.*—The Museum has on its staff two Assistant Curators who offer free guide service to the visiting public who wish to avail themselves of such service. These guides explain the exhibits in simple language (mostly in the varnacular). This service has proved to be a boon mainly for the illiterate visitors who are not in a position to read the labels.

(vii) *Demonstrations to school teachers.*—Every year on Saturdays, during December and January, parties of teachers from various schools in the City are taken round the galleries by the respective Curators who explain in detail the significance of the exhibits to the teachers. The object of these demonstrations is to enable the teachers to have an intelligent grasp of the objects displayed in the Museum so that they, in their turn, will be able to satisfactorily guide their pupils when they are brought to the Museum on their routine visits.

Museums thus have an important and almost unique part to play in education, meeting the needs of both formal and informal instruction, of children as well as adults. There are no frontiers to restrict the exploration of the mind with the aid of the museum collections. The Madras Museum in spite of the limitations imposed on it by staff, accommodation and finances, has had a very commendable record of educational activities and research. In planning for its future, it is well to remember that apart from the passive role of museums in collecting and preserving material, they have an even more important, active and dynamic role to play in making these collections educationally useful and it is this aspect of museum work that has given museums recently the vitality which they lacked some decades ago.

(*Continued from page* 21)

the training in two spells of about six weeks each with a phased programme. During 1959–60 a beginning will be made with the establishment of at least one centre in each State. The number of centres will be increased progressively at the intervals of about three to four months depending on the availability of institutions and other facilities. The Block Development Committees will have training sub-committee for this purpose with the responsibility to chalk out a phased training programme of its members. A suitable syllabus for training has already been prepared by a small non-official committee of Members of Parliament under the Chairmanship of Shri Balwantray G. Mehta.* Small brochures to serve as guide books will be prepared to cover all topics in the syllabus, in simple language. The trainees will be supplied these books for reference during the training as well as after the training when they go back to their villages.

As this programme is to be implemented chiefly through non-official agencies a programme for training the trainers of a month's duration has also been thought of by the Ministry of Community Development.

Training of District Panchayat Officers.—For giving proper guidance to the panchayat extension agency at the Block level, the District Panchayat Officers will require orientation for a proper approach to the work of panchayats in their new role as village republics. It is the proposal to have this training of about three months at common centres to be organized by the Ministry of Community Development.

With the educative process as outlined above the stage will be set for the working of the village democracy—the official and the non-official organizations working side by side with a common object. The proper atmosphere will be created to throw up effective village leaders. The villagers need not then feel so helplessly dependent upon a few leaders at the top level and look up to them for even trifling things. They will acquire a new confidence in their own capabilities. A great army of trained self-reliant men will be created. With the spread of literacy among the large percentage of illiterates now in the villages, the capacity to use their own discretion to choose the best among them to be their leaders will increase amazingly. The voice of the villager will not be feable any more. It will be quite audible and with the vital difference—it will be the voice of authority, confidence, and right. The acquisition of technical knowledge will follow automatically. The pride and joy of self-reliance and co-operation will produce an enlightened, capable and forceful village community with a vitality unknown before. It will be so refreshingly dynamic. The neon signs of the cities and towns will not stand as a symbol of isolated prosperity. But they will stand as a symbol to acknowledge the light of wisdom growing brighter every day in the country side, as a co-partner in the Nation's march towards prosperity. They will be complementary to each other—Sail or sink together.

* Shri Balwantray G. Mehta was the leader of the team for the study of Community Projects and National Extension Service appointed by Planning Commission.

Publications of the Department of Information and Publicity Government of Madras

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THE HIGHWAY to PROSPERITY

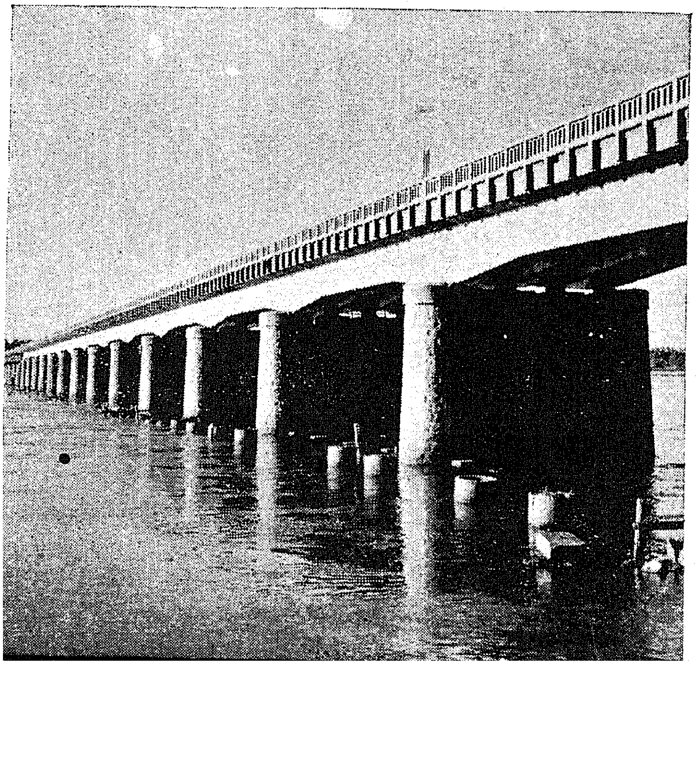
Sri K. V. EKAMBARAM,
Chief Engineer, Highways.

The history of "The Road" has its beginning almost with the history of mankind itself. Good roads, means of easy movement for men and materials, necessarily go with civilization; and India, as the cradle of civilization, even in the days of yore had not only well laid out roads of diverse standards to suit particular needs, but also had evolved rules regulating the width of roads for various purposes and different kinds of traffic and prescribing punishments for obstructing or defiling roads.

Ancient History.

The most ancient literature making mention of the construction of a structure of communication in South India is Valmiki's Ramayana. Under the authority of Sri Rama, and immediate supervision of "Engineer" Neela, the Vanara army constructed probably the first bridge ever to be designed to join an off-shore island with a main land. Mention is also made in Tamil literature of how the Pandya King had obtained technical advice from Lord Shiva for the town-planning scheme of the ancient city of Madurai. Silappathikaram, one of the best available Tamil classics, describes that during the invasion of North India by the Chera King, Senguttuva, twenty thousand bandies conveyed the arms and ammunition required for his army. A State that had maintained such a large number of vehicles should certainly have had a good road system.

The bridge across the River Kollidam connecting Salem and Tiruchirappalli districts.



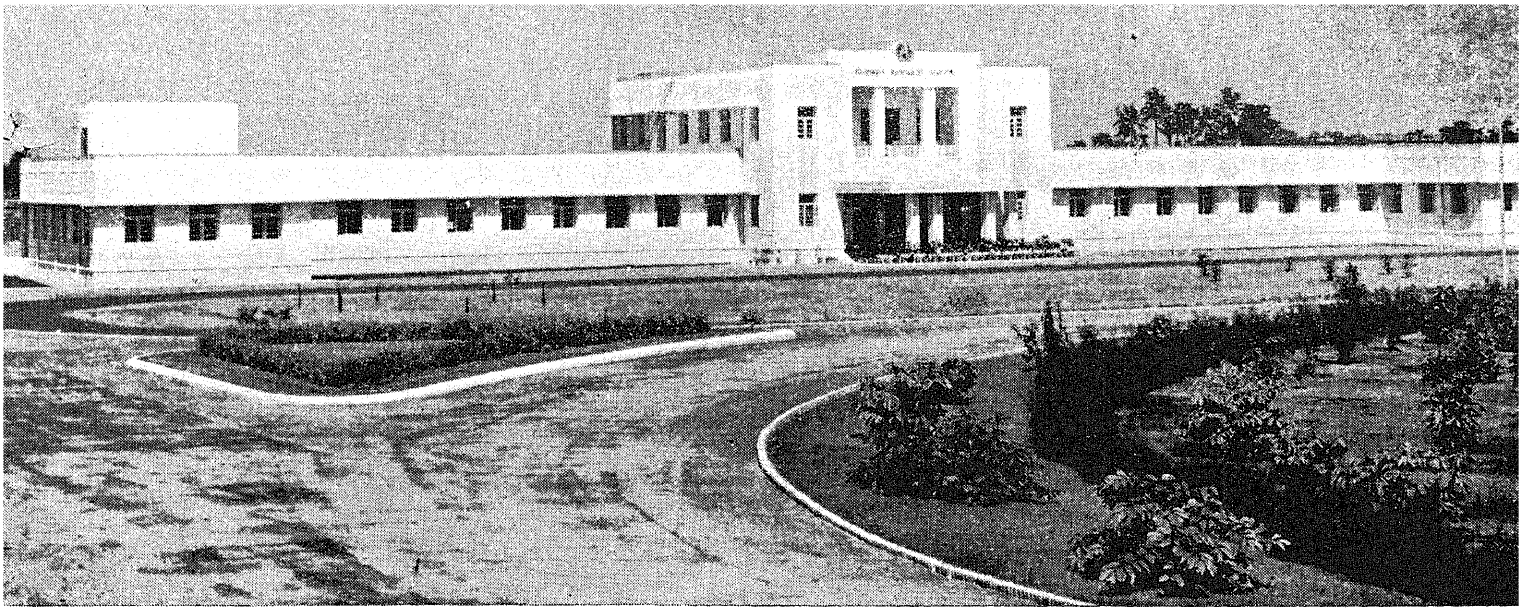
The Middle Age.

In the mediaeval period, from the writings of the Chinese travellers, Fahian and Hieuntsang, we get an idea of how the roads were maintained by the rulers of India so as to give maximum convenience for the travelling public. The stone inscriptions containing the recorded achievements of the Chola Monarch Raja Raja the Great, who reigned in the tenth century, reveal that the maintenance of roads in those days was the responsibility of the village assembly and also describe the measures of taxation for financing the works to be undertaken. Secret underground subways between important places had been constructed for the convenience of the members of the royal family and portions of these abandoned paths could even now be seen in various places in a condition not fit for use.

The Recent Past.

Coming to the recent past, several rulers of the various dynasties that ruled over portions of the South, notably Queen Mangammal and Thirumalai Nayaka, spent their time and money in the construction of good roads with fine avenues spanning the length and breadth of South India connecting historic shrines and other places of importance, which bear ample testimony to the great foresight of these beneficient rulers. The enterprising warrior kings of Mysore, Hyder Ali and Tippu Sultan who had projected and in great part finished an extensive chain of roads that connected all the principal places of the South, have earned immortal positions in History not only as pillars of nationalistic urge but also as pioneers of Road Engineering.

However, due to neglect of the numerous Palayagars and Zamindars, in whose hands the administration fell in the early years of the nineteenth century, the major



The Highways Research Station at Guindy, Madras.

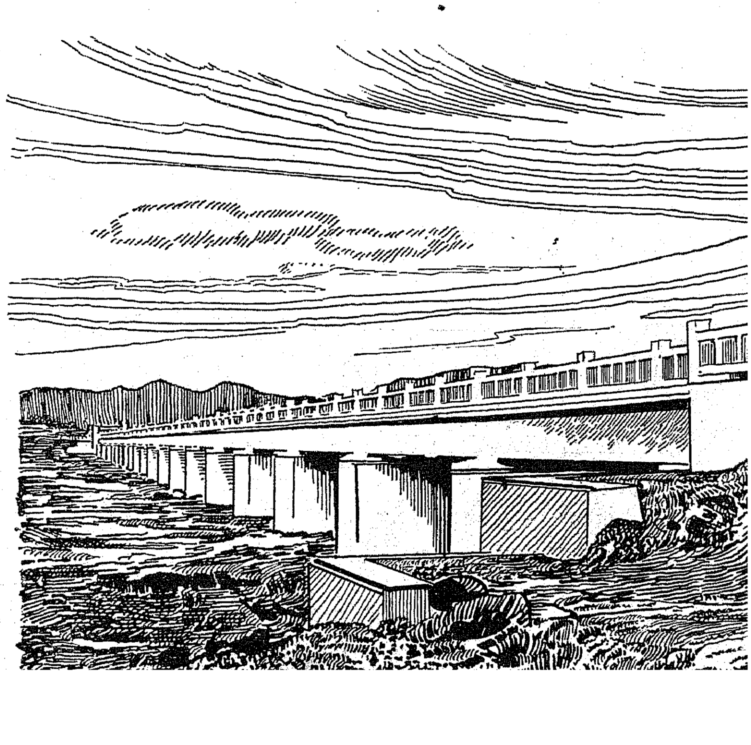
portion of the road system gradually fell into disuse, having been washed away by monsoonic rains, with the result there were no "made" roads worth mentioning and fit for vehicular traffic when the British conquered the South. The policy of the East India Company in the matter of establishment of communications, was mainly one of inactivity except for the construction or repair of roads required for strategic purposes. Gradually, civilian and commercial interests also were begun to be cared for, and the Revenue Board, which was in charge of the roads, were relieved of their responsibility in the field of communications, which was transferred to a new department known as "Trunk Road Department", which again was abolished within a few years of existence, after the formation of the Public Works Department in the year 1858. However, it was not until the creation of the Local Fund Boards in Madras in the year 1871, in whom most of the roads were vested with annual allotments comprising of a portion of the land revenue and also powers to levy tolls, that any development was discernible. Here again, though some of the local bodies did much to their credit, yet, their interests were confined only within the district boundaries. With the subsequent abolition of tolls in the year 1930, the finances of the district were terribly crippled. This led to the continued neglect of the roads and their rapid deterioration. The innumerable villages of the interior were completely isolated and even the meagre communications they had, were interrupted by large unbridged rivers and streams.

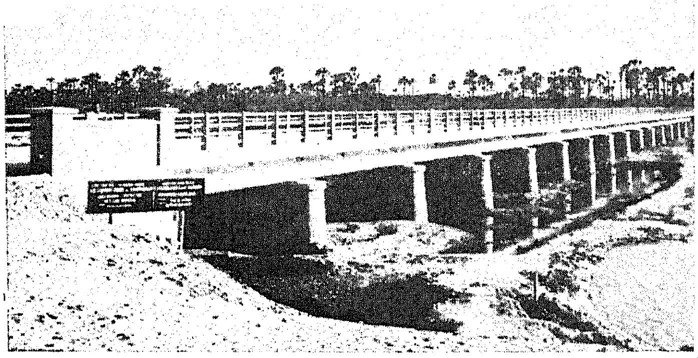
Hence attempts were made to set things right and protect the road system. Certain important stretches of roads were designated as trunk roads and Government assumed responsibility for reimbursing the cost of their upkeep to the District Boards. Some other roads were classified as second-class roads and Government agreed to pay 50 per cent of the expenditure on maintenance of such roads subject to a maximum fixed for each district. Later on a Central Road Fund was constituted out of the receipts from the petrol tax. Due importance then came to be given to the development of inter-district roads. Unfortunately, the Second World War broke out and the attention of the authorities was completely turned towards roads of strategic importance, but after the war, the importance of communications in general assumed greater importance than ever before.

Separate Road Authority.

In the year 1943, the historic conference of Chief Engineers from all the then Provinces and States in India was held at Nagpur to draw up a Post-War Road Development Programme for this country. The bold programme drawn up on that memorable occasion and

The bridge across the River Palar. This is the first pre-stressed concrete structure in the South.





The Manapad Bridge over Karamaniar in Tirunelveli district. This is a vital link in the coastal area of this district.

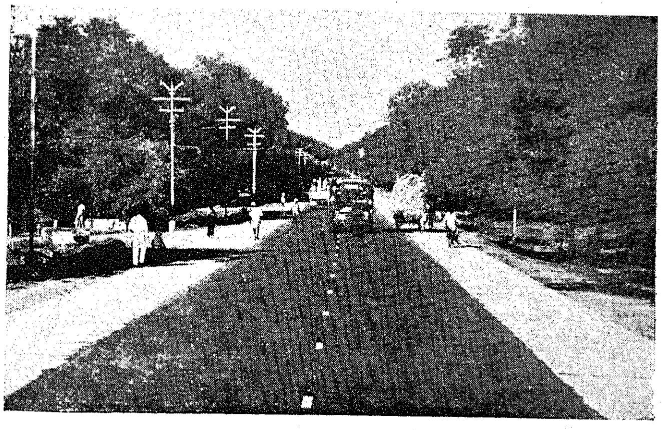
the broad principles, objectives and standards laid down in that report, continued to inspire all the activities of road development thereafter. Consistent with the recommendations of that conference, Madras took the lead over the other States in organizing a separate Highways Department on the 1st of April 1946, to ensure a uniform and adequate policy throughout the State, with regard to construction and maintenance of roads and bridges in the State.

The undivided and specialized attention by this separate department has resulted in the addition of a large mileage of roads since its formation. The State that was having only 29·6 miles of roads per 100 square miles of its area in the year 1946, is now in possession of 49 miles of communications for every 100 square miles. The Post-War Road Development Plan put into execution in the year 1946, together with the National First Five-Year Plan with which it was merged in the year 1951, had accomplished substantial developments in the achievement of about 100 miles of concrete roads, formation of 2,700 miles of new roads, and construction and improvements of more than 400 minor and major bridges. The construction of the first pre-stressed concrete bridge in India over River Palar on Madras-Tiruchi National Highway, the bridge across Gatana river near Ambasamudram in Tirunelveli district, the bridge across River Cauvery near Pugalur in Benares-Cape Comorin Road, the causeway across Ponniar near Melpattambakkam, the formation of the coastal road from Tuticorin to Tiruchendur, the extension of the Madura-Ramnad National Highway from Ramnad to Mandapam, the opening of a coastal route from the historic place of Kovelong to the tourist centre of Mahabalipuram of archæological importance—these are some of the important schemes that were completed during this period. A remarkable achievement in this period was that almost the entire stretch of National Highways in the State was provided with dustless surfacing.

Following the successful completion of the First Plan, the Second Five-Year Plan was launched on a grander scale, and the first two years of the Plan have been successful completion of several major road and bridge schemes. The longest pre-stressed concrete bridge in India was completed over the River Coleroon in Sirkali-Chidambaram Road thus re-establishing the broken link between Tanjore and South Arcot districts. Formation of ghat roads leading to Kolli Hills in Salem district, from Mannarghat to Chinnathadagam in Coimbatore district, from Bodi to Bodimettu in Madurai district are under rapid progress. Construction of bridges across River Palar near Ranipet, across River Ponniar near Villupuram, across the River Cauvery near Tiruchirappalli and also at Pallipalayam, across River Cheyyar in North Arcot, across River Vaigai near Madurai and several other bridges are under construction and will shortly serve as links breaking all barriers of nature.

The Present Road System.

Today Madras State has got a good network of nearly 25,000 miles of roads out of which only less than about one-third is unsurfaced. Such a large mileage with such a big percentage of surfaced roads is the unique possession of this State in the whole of India. A rough picture of the main highway grid spread over our State is given below. There are seven stretches of National Highways, Nos. 4, 5, 7, 45, 46, 47 and 49 which form the main arteries. Of these N.H. 47 Benares-Cape Comorin Road is the longest one having a total length of about 350 miles. This inter-State Highway enters our State from Mysore State in the south-east direction and after running for a few miles and reaching Krishnagiri, changes its alignment towards south and maintains the course straight touching the district centres of Salem, Madurai, Tirunelveli and Cape Comorin and also several important business centres such as Dindigul and Virudhunagar. Three routes of National Highways radiate from the capital City of Madras, in the directions of north, west and south, bearing the names, Madras-Calcutta Road (N.H. 5), Madras-Chittoor-Bangalore Road (N.H. 4) and Madras-Tiruchi-Dindigul Road (N.H. 45). The last mentioned road, more or less runs parallel to the railway line and passing through Chingleput, Villupuram and Tiruchirappalli, terminates at Dindigul. The limit of Madras-Chittoor-Bangalore Road in Madras State ends with Vellore and another link from Ranipet to Krishnagiri



G.S.T. Road with conphalt surface near Tambaram.

completes the triangle. Another route takes off at Salem and passing through the industrial city of Coimbatore, " The Manchester of South India " runs into Kerala State. The last of the series is the Madura-Ramnad road extended up to Mandapam following in its route the old Mangamma Salai in several places. There is a proposal to construct a road bridge at Pamban Straits to provide direct road link to the greatest pilgrim centre of the south, viz., Rameswaram, with the main land of Ramanathapuram district. Among the State Highways, mention may be made of Nagapattinam-Tiruchi Road passing through Tanjore and having as its continuation the Tiruchi-Coimbatore Road. These two roads together run horizontally in the middle of Madras State from the east coast to the western boundary. Other important inter-State State Highways include the Cuddalore-Chittoor Road connecting the district headquarters of North and South Arcot districts, Madurai-Tenkasi Road and Dindigul-Palani-Coimbatore Road, serving the trade and pilgrim interests, the Coimbatore-Mettupalayam-Ooty Road leading to the " Queen of Hill Stations " in India. One important feature of the Highway Grid in Madras is that all district headquarters are connected either by a National Highway or State Highway.

Besides the above, several major and other district roads with their branch roads serve the local interests adequately. It will be gratifying to note that Madras State has so well extended its network of feeder roads into the rural parts, that no village, in an agricultural or otherwise well developed area, lies at a distance of more than two miles from any road, and in the underdeveloped hilly and forest regions, more than six miles from any road.

The Future Problems.

Though the above facts present a rosy picture, yet there is the other side of the problem too. The rapid rate of industrialisation, the manufacture of motor vehicles stealing a pace over the construction of road schemes, the constant migration of the rural population towards cities, the change over of the movement of goods traffic from the rail to the road out of necessity, the inadequacy of the old structures to withstand the heavy laden weights of modern vehicles, the question of proper maintenance of the vast mileage of roads constructed with people's participation—all these—are only a few of the problems to be tackled with prudent planning, if the future is to be equally bright. Realizing the importance of roads in building up a Nation, the Government are spending large amounts of money on communications.

Let me conclude this article with the statement of Winston Churchill " Give us the Tools and we will finish the job ".

(*Continued from page* 29)

own natural death or at least immediate frustration. Such were the objective principles of the System of Abolition.

After passing through long periods of tireless fight, Madam Josephine Butler's gospel was accepted by the League of Nations. Many countries were convinced of her standpoint and so, they pledged themselves to follow and promote the System of Abolition. One such country was England. India was then a part of the British Empire and later Commonwealth and, therefore, she was also virtually obliged to adopt this System of Abolition. This system was not, however, unknown to India. Even in the late 19th Century, Sri Keshab Chandra Sen of the Brahmo Samaj at Calcutta, formed an association to fight against the commercialised prostitution and brothels of any type and to raise the moral standard of men and women. Even the United Nations have recognised the principle of Abolition in 1952 and Independent Republic India, among other countries, has solemnly pledged to adhere to this System of Abolition both on hygienic and moral grounds. Among the few blessings which England showered on India and which India still cherishes is the System of Abolition.

It was to advocate and enunciate the principles of the System of Abolition that the Association for Moral and Social Hygiene was formed in Calcutta and later in Delhi in 1928. Under dramatic circumstances, a similar Association with a different caption but with the identical objectives of not only suppressing the evil of immoral traffic in girls and women, closing down brothels, dismantling the network of " traffic gang " and reclaiming and rehabilitating the victims to the vice, but also as a preventive measure, propagating the principles of self-denial and continence as well as dignity and purity of women was formed in the Madras City in 1924–25. It is the MADRAS VIGILANCE ASSOCIATION. Any expatiation on this will take us off the track, as it provides a theme for yet another article: If there is any demand for it, it will be contributed some other time. It will suffice for us to know that it was the Care and Correctional Institutions (Shelters, Rescue Homes and Vigilance Homes) or Protective Homes, started and conducted by this Association that the State Government took over, provincialised and constituted them under the MADRAS (STATE) VIGILANCE SERVICE in 1948, and ever since, through its directly controlled and aided institutions in the City and State, it is rendering yeomen service to the cause of the exploited victims to the commercialised vice. Madras is the only State in India to have a Government Vigilance Department (Service). This is, in brief, the biography of the Madras (State) Vigilance Service.

To conclude, the social service minded public of Madras State may leave the direct action against the commercialised vice to the Police and the custodial care, training and resettlement of the victims to it to the Madras Vigilance Service. But, it should exhort the people of all castes, creeds, colours and classes to devote their time, energies and resources at their disposal in establishing reasonable equality and responsibility between the sexes and a code of honour, decency and self-respect that women may demand of men. Sex purity is the basis of general morality and it is the building factor of national solidarity.

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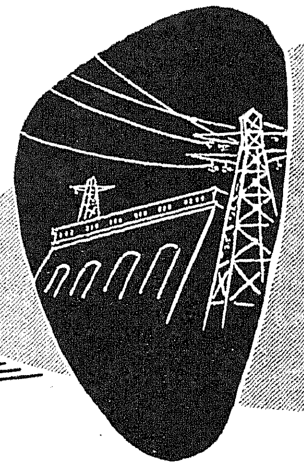


Irrigation For PLENTY

SRI U. ANANDA RAO,
Chief Engineer for Irrigation.

It is an undenied and undeniable fact that Madras State has been the pioneer in the field of irrigation from very ancient times. The renowned Grant Anicut amidst picturesque surroundings across the sacred Cauvery, the Uyyakondan channel, a master-piece of a contour canal in those days when modern technique was unknown and the innumerable tanks dotted all over the entire State like pearls bear testimony to the engineering marvel and far-sightedness of the master-builders of Tamil Nad. By and by, the waters of all major rivers have been harnessed and put to beneficial use by means of the construction of anicuts and channels taking off from above them. In short, there is no major river left in the State whose potentialities have not been exploited for the benefit of the toiling millions.

Yet in the post-war years the problem of maintaining our growing population even at its present subsistence level has assumed staggering proportions. In order to grapple with the alarming food situation the Government has to don the mantle of universal provider with the apparently inexhaustible water resources. India's history, as in ancient times, is being made in the valleys and basins of her rivers. Under the pressure of vital needs big and small schemes irrespective of their financial considerations were launched under the First and Second Five-Year Plans. The schemes generally contemplate of cooping up large flood flows of rivers, though occurring only for a very limited period in reservoirs formed by building dams across the rivers and thereby bringing greater areas under the plough. Nine such schemes were taken up during the First Plan at an estimated cost of about Rs. 29 crores to benefit about 334,000 acres. Of these, the Lower Bhavani, Mettur Canals, Araniar and the Cauvery Delta Drainage Improvement Schemes were almost completed in the First Plan period itself or early in the Second Plan period. The remaining five schemes were continued during the Second Plan period and have since been completed. Of these the Sathanur, Krishnagiri and Amaravathi Projects were completed and brought to beneficial use during the year 1957.

The Neyyar Project in the Kanyakumari district was inaugurated by the Chief Minister. The photo shows the Project site.

During the early part of the current year one of the two remaining projects, viz., Manimuthar Project was opened for irrigation. This project lying in Tirunelveli district comprises a part-earth and part-masonry dam across the Manimuthar river, a tributary of Tambaraparani and a new canal 28 miles long to feed nearly 300 precariously rainfed tanks irrigating about 20,000 acres. The reservoir is also intended to stabilize supplies to about 83,000 acres of existing irrigation under the Tambaraparani system which is paradoxically subjected to frequent failure due to dearth of water at crucial times though there is enough surplus water. The project was commissioned on 3rd January 1958 for the full area.

The only other project, viz., Vaigai Project is also nearing completion. This project is for the construction of a part-earth and part-masonry dam forming a reservoir with a capacity of 6,800 million cubic feet across the Vaigai river to harness the surplus waters diverted from the Periyar lake. The waters so stored

will be utilized for irrigating 20,000 acres. Half this extent will be served by the existing Periyar canals after suitable improvements and the other half by a new canal 17½ miles long being excavated on the right side of the Peranai regulator. The canal excavation for 13½ miles has been completed and water was allowed for 900 acres in the head reach from July 1958 onwards. The reservoir is also designed to hold up the surplus waters of the Vaigai river now going to waste and to release the same when required to stabilize existing irrigation under the Vaigai river in the most backward area of Ramanathapuram district.

During the Second Plan, four more new schemes have been taken up. They are (1) New Kattalai High Level Canal, (2) Pullambadi Canal, (3) Vidur Project and (4) Parambikulam Projects. The first two are mainly for utilizing the considerable excess flow of the Cauvery river that is wasted, by diverting to feed a number of tanks. They will irrigate in all about 43,000 acres. Good progress has been made in the excavation of the canals and they are expected to be completed by 1959.

The third scheme, Vidur Project, is to form a reservoir across Varahanadhi in South Arcot district for the joint benefit of both Madras and Pondicherry States. An extent of 3,200 acres will be benefited by the scheme. Nearly 50 per cent of the work on this scheme has been completed and we are sanguine that the project will be completed in all respects in about a year.

The fourth and the most important major multi-purpose scheme included in the Second Plan and yet to be taken up is the Parambikulam Project. This project contemplates harnessing the waters of Parambikulam river. The river rises in the Anamalais in Coimbatore district and flows within the Madras State and then enters the Kerala State through Cochin and finally falls into the Arabian Sea under the name Chalakudi. The harnessing of the Parambikulam river came up for active consideration by the Madras State after the separation of the Andhra State, as the residuary Madras State had very limited or rather little scope for additional irrigational facilities. As the river Parambikulam is an inter-State one, much spade work had to be done before coming to an agreement for the utilization of the waters for the mutual benefit of both the States.

It is good augury that a working plan for the sharing of the Parambikulam waters has been mutually agreed to after prolonged deliberations. The willing co-operation of the Kerala Government, their innate goodwill and their abiding interest in the overall development of the nation is really laudable and deserves particular mention. The project, as finally decided, aims at harnessing and utilizing the entire flows of Parambikulam, Aliyar and Nirar rivers and the surplus flows of Sholiar. The scheme is in two distinct parts.

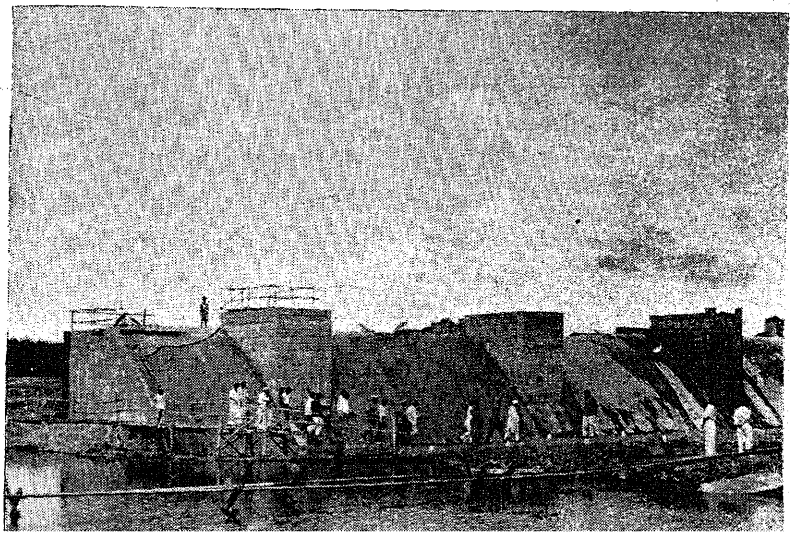
The first part consists of big storage reservoirs within the Kerala State limits on the Parambikulam river and its tributaries, viz., Tekkadi, Tunakadavu and Peruvaripallam with suitable interconnections by means of tunnels, etc. Flows from the Sholiyar, another tributary of the Parambikulam river, which are surplus to the requirements of the Hydel schemes in Kerala State on the same river lower down, will be diverted into the main Parambikulam reservoir. The total flow that is expected to be available for the use of Madras State from these rivers is about 19,000 million cubic feet in an average year. Waters from these resorvoirs will be diverted eastwards by means of a tunnel 2½ miles long. At the exist end of the tunnel there is a drop of about 500 feet where a firm power of 33,000 K.W. can be developed. From the tail race of the power house a contour canal will be taken to the Aliyar river which will also be dammed to form another reservoir. Two canals will be aligned from this reservoir for irrigation in Pollachi taluk of Coimbatore district.

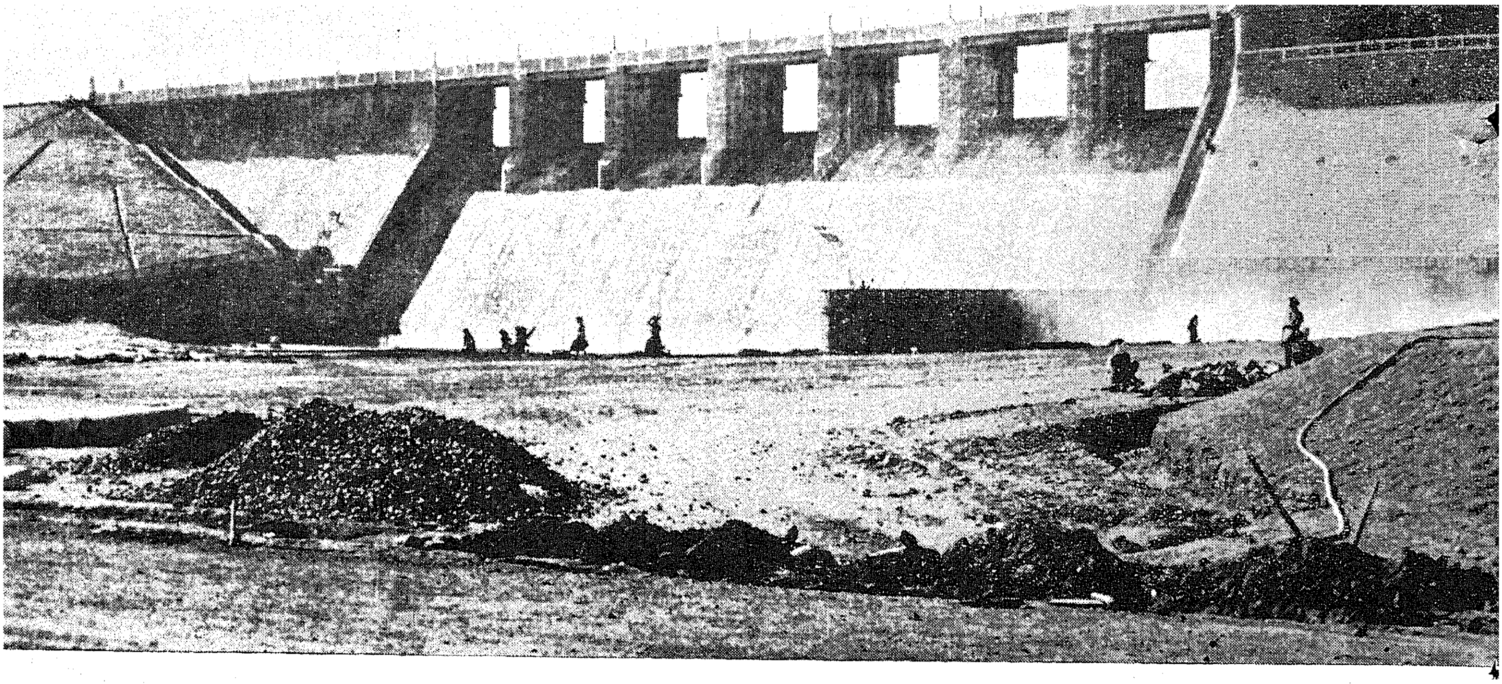
The second part of the project consists of the diversion of the waters of Nirar, a sub-tributary of the Periyar river to the Aliyar river by a tunnel 6½ miles long. The waters so diverted as well as the flows of the Aliyar river at the site of the reservoir will be again diverted to the Nallar valley by a short tunnel. All these waters will be stored in a reservoir by the construction of a dam wherefrom another tunnel conveys the water. At the end of this tunnel there is a drop of about 1,700 feet where a firm power of 80,000 K.W. can be developed. The tailrace water is again picked up and let into a reservoir on the Palar river wherefrom two canals take off to irrigate areas in Dharapuram, Udumalpet and Palladam taluks of Coimbatore district.

The total area that will be benefited by this scheme is about two lakhs of acres of mixed crops of paddy, millets and corton. About 113,000 K.W. of firm power will also be developed. The cost of the project is expected to be about Rs. 30 crores. With the additional grant expected during the Second Plan the execution is proposed to be accelerated and one of the units of the projects, viz., Aliyar Dam and canal are proposed to be taken up for execution next year for which the preparation of plans and estimates are under way. The other units will also be taken up one by one and when the entire project is completed, it will usher in an era of prosperity to the arid regions of Coimbatore district.

Not only great strides were made in respect of major irrigation but also minor-irrigation was given due and

The Vidur Reservoir Project under construction in the South Arcot District.

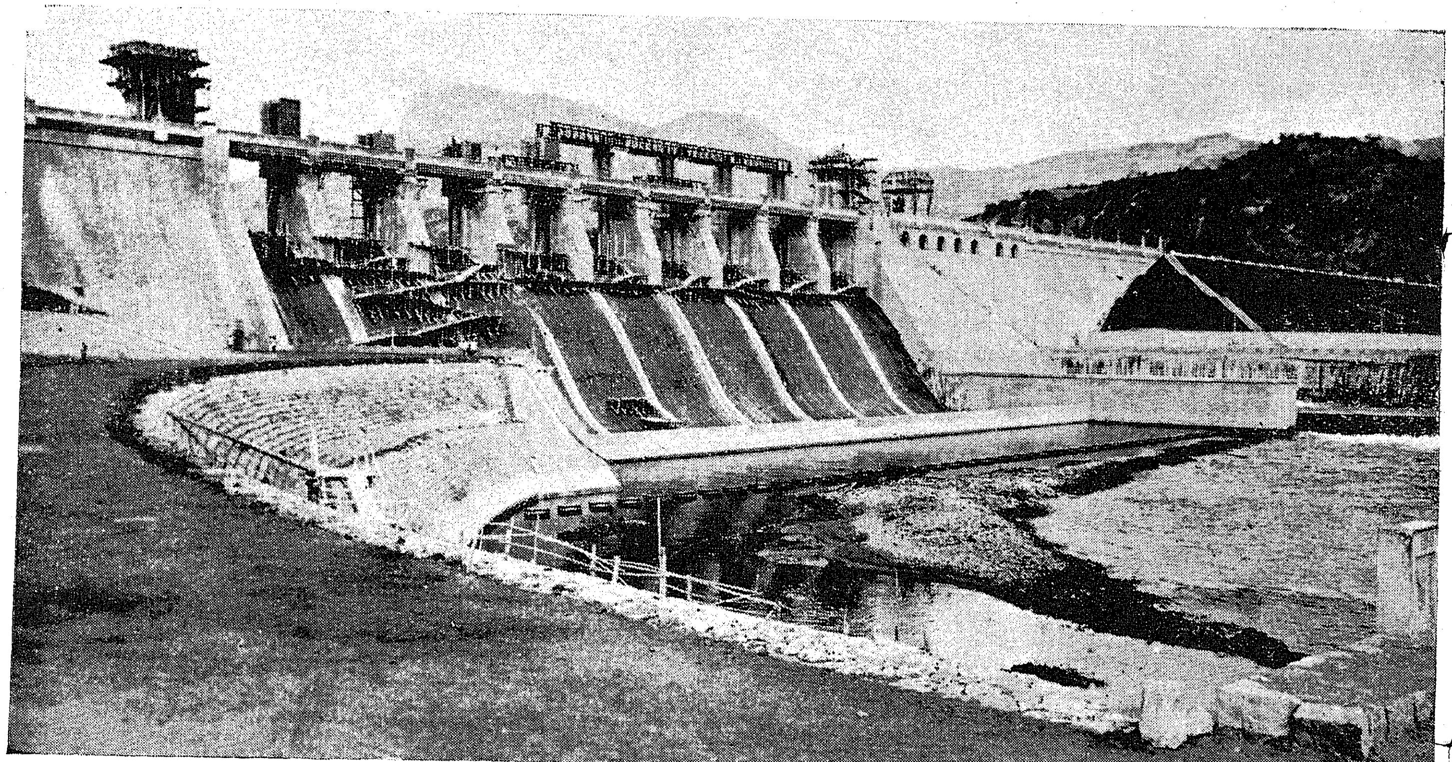




The Vaigai Dam in the Madurai district which was inaugurated on 21st January 1959.

proper attention. Sixty-nine works were taken up during the current year at a cost of Rs. 21.40 lakhs to benefit about 32,000 acres. Besides 18 works under the de-silting-*cum*-reclamation Scheme were also taken up to bridge the gap and reclamation of about 3,000 acres between the registered ayacut and actual cultivation.

All is grist that comes to a mill. With the completion of the projects under First and Second Plans nearly 90 per cent of the potentialities of the rivers in the State has been availed of and so Madras State has come to the end of its tethers in respect of water resources. It has, therefore, become incumbent on the part of Madras State to look for an integrated development of



The Amaravathy Reservoir Project in the Coimbatore district.

large rivers of adjacent States on zonal basis in order to increase the food production for feeding the teeming millions. With the mutual goodwill and co-operation of our neighbouring States it is a practical proposition to design many such schemes as to give rapid and kaleidoscopic change in every sphere that matters social economic and political. With the national prosperity attendant upon these projects we hope ours will be a land of Utopia ere long.

IRRIGATION PROJECTS IN MADRAS STATE.

	Name of Schemes.	Year of completion.	Cost in lakhs.	Area benefited.	District benefited.
			RS.		
1	Srivaikuntam Anicut	1889	17·75	26,000	Tirunelveli.
2	Cauvery Delta	1889	93·86	44,008	Tiruchirappalli.
3	Barur Anicut (Tank)	1891	4·52	6,887	Salem.
4	Mehamathur Anicut	1891	0·87	4,555	South Arcot.
5	Vridhachalam Anicut	1893	1·08	8,829	Do.
6	Pelanderai Anicut	1893	6·92	12,839	Do.
7	Marudur Anicut	1893	0·60	21,000	Tiruvannamalai.
8	Vallur Anicut	1893	0·76	5,216	Chingleput.
9	Kalingarayan Anicut	1893	1·80	14,116	Coimbatore.
10	Chembarambakkam	1893	7·64	13,000	Chingleput.
11	Kodivere Anicut—				
	(a) Thadapalli Channel	1893	1·77	15,183	Coimbatore.
	(b) Arakankottai Channel	1894	1·44	4,821	Do.
12	Tirukoilur Anicut	1895	3·99	28,000	South Arcot.
13	Shathiatope Anicut	1895	10·90	33,000	Do.
14	Palar Anicut	1896	35·29	24,102 54,566	Chingleput. North Arcot.
15	Cheyyar Anicut	1896	12·29	22,193 494	Do. Chingleput.
16	Periyar System (Dam)	1897	108·36	1,43,000	Madurai.
17	Poiny Anicut	1897	3·04	22,462	North Arcot and Chittoor (Andhra.)
18	Lower Coleroon Anicut	1903	30·02	84,244 23,685	South Arcot. Tanjore.
19	Toludur Regulator	1925	26·23	25,000	South Arcot.
20	Kattalai Regulator	1926	45·25	66,632	Trichy district.
21	Cauvery Mettur (Dam)	1934	725·82	2,65,000	Tanjore.
22	Kodayar	..	..	60,000	Kanyakumari.
23	Koyaiyar (Extension Perunchannai Dam).	1953	44·5	6,000	Do.
24	Lower Bhavani	1955	1000	2,07,003	Coimbatore.
25	Araniar Project	1957	104·12	3,000	
				8,500*	Chingleput.
			New	17,709 3,291*	} 21,000.
26	Sathanur Project	1958	289·28	15,300	North Arcot.
				5,700	South Arcot.
27	Krishnagiri Project	1958	202·43	6,500	Salem.
				2,500*	
28	Manimuthar Project	1958	505·00	20,000	Tirunelveli.
				83,009	
29	Amaravathi Project	1958	324·40	21,000	Coimbatore.
				32,000*	
30	Mettur Canal Project	1959	1183·00	17,200	
				27,860	Salem.
31	Vaigai Project	1959	330·00	13,000	Madurai.
				7,000*	Ramanathapuram.

* Existing.

COOPERATIVE FARMING in Madras State

SRI A. PALANIAPPA MUDALIAR, I.A.S. (Retired),
Registrar of Co-operative Societies.

A co-operative farming society is a voluntary organization of the farmers to carry on farming operations jointly, on the lands willingly pooled by them into a common farm, or on the lands held by the society as owner or lessee.

Where the farmers have pooled their own lands for joint farming, it is known as a Joint Farming Society; where the farmers have agreed to cultivate collectively, the lands held by the society either as owner or lessee, it is known as a Collective Farming Society.

In a joint farming society, cultivation is done either through personal labour of the members or if necessary by hired labour. The members (or others) get remuneration for the labour contributed by them. In addition, each owner who has pooled his land into the common farm, gets what may be called 'land dividend', out of the net produce, in proportion to the extent or the value of the land contributed by him.

In a collective farming society also, the members (or others) get remuneration for the labour contributed by them. The net produce is shared among the members in proportion to the labour contributed by them. There is no question of 'land dividend' in this kind of society, as the ownership of the land is with the society and not with the members.

Thus, the essence of a co-operative farming society is joint operatorship, whether it is a joint farming society or a collective farming society.

Joint endeavour in other fields of co-operative activity in the Agricultural sector.

The idea of joint endeavour on a co-operative basis in the agricultural sector is not new in our State. It has been there for more than 50 years. The village co-operative society, which is the earliest kind of co-operative institution in rural areas is an example of joint endeavour for the purpose of securing and supplying agricultural credit, as well as procuring and distributing the agricultural and domestic requirements of the members. So also the agricultural banks, which have been started recently. On 30th June 1958 there were 7,915 village co-operative societies and 245 agricultural banks which supplied credit to the members to the extent of Rs. 8·21 crores, and supplied agricultural and domestic requirements to the members to the value of Rs. 58·14 lakhs during 1957–58. The co-operative marketing society is another example of joint endeavour on the part of the agriculturists, to market their produce to their best advantage. There were 105 marketing societies in our State on 30th June 1958, which during the year 1957–58, marketed the produce of the members to the extent of Rs. 185·09 lakhs besides issuing loans on the pledge of produce to the extent of Rs. 169·88 lakhs to enable the members to hold their produce for a better market.

Besides the village co-operative societies and marketing societies, there are in this State what are called 'land colonization societies', which come close to the co-operative farming societies. A land colonization society secures land from the Government or others by assignment or lease, divides such land into smaller units of 5 or 10 acres among its members, who cultivate their share of the land individually, paying rent, if necessary. The society has a right to resume the land from any member, if he does not cultivate the land properly. On 30th June 1958, there were 33 land colonization societies in our State, holding 15,032 acres of lands.

A co-operative farming society (either a joint farming or a collective farming society) is a step forward in the joint endeavour described above. Indeed, the joint or collective farming society is the highest form of common endeavour in agricultural co-operation.

The need.

The need for co-operative farming arises out of the inherent disadvantages of small and scattered holdings into which most of our cultivable land is divided. It is obvious that a small landholder who has a tiny holding is grossly lacking in capital or other resources to carry on farming on scientific lines, so as to get the maximum yield. If the advantages of large scale and scientific farming are to be secured, and maximum production achieved, he should combine with others

similarly placed in life, and pool his land with those of others. It is out of this realization of the advantages of large-scale farming, co-operative farming societies have been formed in our State.

Working of Joint Farming Societies.

There are seven co-operative joint farming societies in this State with 428 members who have pooled into the society 1,307·45 acres of lands. Most of them were formed within the last two years, some very recently. Though it is rather early to assess the extent of increased production and increased income achieved by these societies and their members, yet the results so far shown by the societies are promising.

In Nathagoundanpudur (Coimbatore district) for instance, the lands which have been pooled into a common farm (about 100 acres), were depending only on rains, with no irrigation facilities. Failure of crop, after the farmers had made considerable investment in seeds, manure, etc., was not uncommon. The joint farming society has sunk two big wells, installed pumpsets, and is making arrangements to sink a third well. One well has already begun to irrigate and the second well which is nearing completion will begin to give irrigation facilities shortly. With three big wells in the area, the entire area pooled is expected to get irrigation facilities. The members of the society now go forward with common farming operations, with confidence in the future of their crops and invest money in good seeds and manure without the fear that the investment might become an unprofitable outlay in the event of the failure of rains. The society has conferred a benefit on the small holders of these 100 acres, which it was not possible for them individually to achieve, with their limited capital and resources.

In Mecheri Co-operative Joint Farming Society (North Arcot district) for instance, where crops are now being harvested, the outturn is much more than what it was before the lands were brought under joint farming. Though the lands here, were not so much lacking in irrigation facilities as those in Nadhagoundanpudur, yet the efficiency of cultivation was not uniform. While a handful of people were able to cultivate efficiently and get the maximum yield, the others were not able to do so. After the lands were pooled, the society has been able to achieve a higher standard of cultivation, and to raise the outturn per acre even on lands, which were rather indifferently cultivated formerly.

Working of Gramdhan Sarvodaya Co-operative Societies.

Apart from the seven co-operative joint farming societies referred to above, there are ten Gramdhan Sarvodaya Co-operative Societies in the Madurai district. These are essentially co-operative farming societies of the collective farming type. But their objects are more comprehensive, to be in consonance with the Sarvodaya ideal. Apart from carrying on farming operations, their objects include (i) taking care of orphans and destitutes and maintenance of public institutions like orphanages, chatrams and temples, (ii) providing educational assistance and medical aid to the members and their families, (iii) promotion of sanitary habits by taking over, establishing, maintaining and managing educational institutions, (iv) promotion of social, cultural and recreational activities and (v) working towards self-sufficiency in food, clothing, etc.

The Gramdhan village offers a peculiarly favourable climate for the starting and working of co-operative farming societies because the villagers, by having agreed to give away their lands for the common benefit of the village, are psychologically prepared for the idea of co-operative farming. The members of the Gramdhan Sarvodaya Co-operative Societies have executed gift deeds of their lands in favour of the society, to enable the latter to secure credit and other facilities for the capital and recurring expenditure, connected with farming operations. In 9 out of 10 societies registered, 722 members have gifted lands to the extent of 1,385·07 acres to the societies.

Mention may be made of a co-operative farming society formed in a Bhoodan village (Thanneerpandalpudur in the Coimbatore district). Here 53 landowners have donated to this society 311 acres of land. The society has retained 78 acres of lands for collective cultivation by the members and has allotted the remaining 233 acres among 62 members. This society combines in itself, both the systems of cultivation, i.e., individual cultivation by the members on the lands allotted to them, and collective cultivation of the land retained by the society for common farming.

Societies taking lease of lands from temples, etc.

In the field of co-operative farming, a new line of development has taken place recently. Temples and other religious institutions in our State, own large extents of lands. It is generally the practice that these lands are leased out in large blocks to private individuals, who again sub-lease the lands to smaller cultivators resulting in rack renting. With a view to eliminate this type of middle men in the field of farming, so that his income might be shared by the actual cultivators on the one hand and by the temples and religious institutions on the other, societies have been formed in ten places in the State. These societies have taken the lease of lands from the temples (with the exception of those recently formed). Though for the present each member is allotted a portion of the land taken on lease, the objective is to bring the lands under collective cultivation ultimately, when the members are willing and are prepared for it. So far four societies have obtained lease of lands to the extent of 500 acres from the temples and are undertaking cultivation through their members.

Financial assistance by the Government.

With a view to encourage co-operative joint farming societies and co-operative collective farming societies, the State Government have evolved a pattern of financial and other assistance. Suitable assistance is provided to facilitate the working of such societies. Free grants are given (at the rate of Rs. 10 per member except to those who own lands bearing an assessment of Rs. 10 and above) towards share capital and at Rs. 5 to Rs. 10 per acre towards purchase of manure and seeds. Towards purchase of plough bulls, interest-free loan of Rs. 400 per pair of bulls, half as grant and half as loan is given. Similar assistance is available for purchase of

agricultural implements, and other transport vehicles. So far as permanent improvement to lands is concerned, financial assistance subject to a ceiling of Rs. 100 per acre, is given half as a grant and half as interest-free loan. For irrigation facilities, such as sinking of wells and installation of pump-sets, the entire amount is given as interest-free loan in the first instance and 25 per cent is written back as free grant proportionately each year. For the construction of godowns and cattle-sheds, a maximum assistance of Rs. 10,000 and Rs. 5,000, respectively, is given, half as interest-free loan and half as free grant, in respect of each item, the loan being repayable in 20 years and 10 years, respectively. Besides the direct financial assistance indicated above, Government have agreed to guarantee the repayment of loans advanced by the Central Banks to co-operative farming societies, for cultivation purposes. The free services of Co-operative Senior Inspectors and Agricultural demonstrators or maistries are also given for a period of three years to each society.

The extent of financial assistance given so far is as follows:—

In respect of joint farming societies, loans amounting to Rs. 2 lakhs and free grant amounting to Rs. 0·31 lakh, have been given. Besides, Government have guaranteed to the Central Banks repayment of loans by the farming societies to the extent of Rs. 1·90 lakhs. In respect of Gramdhan Sarvodaya Co-operative Societies, Government have granted loans amounting to Rs. 4·74 lakhs, and free grants amounting to Rs. 1·54 lakhs. Besides, Government have guaranteed the repayment of loans taken by these societies, to the extent of Rs. 1·51 lakhs, to the Central Banks. In respect of the Bhoodan Co-operative Farming Society a loan of Rs. 20,000 and a free grant of Rs. 12,000 besides a Government guarantee to the Central Bank of Rs. 10,000 have been given. In respect of the Tenant Farming Societies formed for taking the lease of temple lands, loan of Rs. 27,750 and free grant of Rs. 15,825, besides a Government guarantee of Rs. 24,000 have been given.

Pro and Con.

The objective of the Government is to have at least one co-operative joint farming society in each block, so that the experiment in co-operative farming might be on a fairly large scale in different regions, and among different people, so that the problems and difficulties that arise in actual working might be examined and solved in the proper perspective. Some unjustified fears have been expressed from time to time, about co-operative farming. It is said for instance, that this is a method of doing away with individual ownership of lands. It is not so. In a co-operative joint farming society where owners pool their lands, individual ownership is definitely recognized, and based on such recognition, the net produce is shared among the owners in proportion to the extent of the value of the land pooled by them. Again, it is said that co-operative farming would reduce the members to the status of wage-earners. This is again a misunderstanding of the position. A co-operative farming society, as already explained, is a voluntary organization, and is functioning on democratic lines. The members participate in the formulation of the cultivation programme, and their representatives participate in the management of the farm. They have absolute freedom, in formulating the programme, in managing the farm, in determining the method of distribution of profit, etc., subject to certain overall safeguards, prescribed by the by-laws, which they have framed for this purpose. There is no element of compulsion. Again, it is sometimes said, that individual initiative and incentive, have no place in an organization of this kind. This is not so. There is ample scope for the display of these qualities, in the democratic functioning of a co-operative farming society. With a view to ensure, that in the preparatory and initial stages, the advantages of individual initiative and incentive are not lost, there is provision in the by-laws of the society to carry on cultivation in groups also, with suitable group incentives. After all, even individual initiative and incentive can bring forth results, only if the size of the farm is sufficiently big, and the capital and other resources available to the individual farmers are adequate. In the absence of these requisites for scientific and profitable farming, individual initiative or incentive, by themselves, cannot be of much use to the small farmer.

Let me conclude the article with an appropriate saying of Mahatma Gandhiji: " I believe that we shall not derive the full benefit of agriculture, until we take to co-operative farming. Does it not stand to reason, that it is far better for a hundred families in a village to cultivate their lands collectively and divide the income therefrom, than to divide the land anyhow into a hundred small portions ? "

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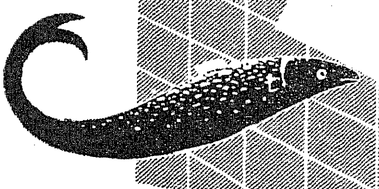


FISHERIES then and now

SRI C. P. KELU ERADY, I.A.S.,
Director of Fisheries.

Fishing is one of the oldest industries in the world. Pre-historic man hunted and fished long before he tilled the soil or knew the use of metals. The Stone Age population of India were found more in the coastal belts than in the interior, and cured fish, supposed to be prepared by them, were found among the archæological remains at Harappa and Mohenjodara. Fish legends, similes and stories are met with the Hindu religious books such as Rig Veda, Atharvana Veda, Jataka, Mahabharatha and Panchatantra. The Sumerians, the Egyptians, the Chinese and the Japanese have practised fish culture long before this industry developed into a science as we know it. The existence of fishing as their chief occupation among the aboriginal races of various countries of to-day, such as the Dyaks of Borneo, Samoan Islanders, Tahitians, Sarawaks, Polynesians, Negroes, Hottentots, Red Indians and the Esquimax show that fishing is a very ancient practice.

Fish as food.

To-day, there can be very few races who do not include this valuable food in their diet. Whether eaten raw, cooked, salted, smoked or preserved in one way or another, the popularity of fish is world-wide. The flesh of fish is generally white and flaky, has an agreeable flavour, is soft and easily digested. It contains a high percentage of proteins and fats. It is stated that eighteen of the amino acids which build up the human body are the first digestion products of fish food. The other essential and accessory food stuffs in fish are nitrogenous elements, iodine, sulphur, phosphorus, magnesium, iron and copper. Vitamin A, B and D, the growth-promoting and disease-resisting factors of all animal and vegetable life is present in large quantities in the liver and body fats of many species. Above all, fish is cheap. These advantages make it a desirable item in the dietary of the rich and an unavoidable factor in the food of the poor.

Fisheries Development in Ancient India.

Even from Kautilya's (321–300 B.C.) Arthasastra, it is evident that even in the dim past, fishery was a well-established industry in India and that fish was relished as an article of food. During famines or other natural calamities, greater use was made of fish to tide over food shortages. Fishermen were charged low licence fees for catching fish and were given concessions for fording or crossing rivers. Fish processing (dry fish and fish manures) was known in those days and fishery products were charged a low rate of toll tax. From the inscriptions on Asoka's Pillar edict V (246 B.C.) it is seen that legislative measures for the conservation of inland fisheries were adopted in those days. Asoka prohibited the catching of fish with reference to breeding periods, lunar periodicity and religious customs. This resulted in the evolution of fishery lands in the country. From the Pallava, Chola and Vijayanagara inscriptions dating from the 5th and 6th century A.D. to the 16th century, details are available about the employment of fishermen in irrigation tanks in South India and about the utilization of the income from the lease of fishery in the tanks for the maintenance and improvement of irrigation tanks and about the gradual development of fisheries in those waters. The *Manasollasa* by King Someswara, son of King Vikramaditya VI of the later Chalukyas (A.D. 1127), is an encyclopædic work and gives details of different kinds of marine, freshwater and estuarine fishes, their habits and of fishing tackles.

Origin of Madras Fisheries Department.

Even before 1870, Mr. H. S. Thomas, a Madras civilian, and Dr. Day of the Madras Medical Service (subsequently Inspector-General of Fisheries in India) had urged the importance of developing the fishery resources of India as an important source of food-supply. Sir F. A. Nicholson, another civilian, in an official note of 1899 on the desirability of developing

the Agricultural Department, proposed that a Bureau of Fisheries should be established as an important branch of that Department. In January 1905, he submitted general proposals for the development of the fisheries of the State and in May 1905 the Government deputed him for a period of two years to investigate the fishery industry in the State and also to study the fishing methods and practice in Europe, Japan and America. In April 1907 the Government accepted the proposals of Sir Nicholson for the initiation of a small Bureau of Fisheries. The aim of this Bureau was three-fold, (1) to conserve and develop marine fisheries, (2) to similarly conserve and develop inland fisheries and (3) to look after the interest of the fisherfolk.

Achievements.

In the course of its steady growth of about half a century, the Madras Fisheries Department has made considerable progress. The work of the pioneers was of course preliminary and rather of the nature of reconnaisance. Mr. James Howell, who joined the department in 1908 as Marine Biologist and Superintendent of Pearl and Chank Fisheries, conducted surveys and investigations on pearl and chank fisheries, prospects of fish-trawling, fishing methods, habits of important sea fishes and on marine fishing. Mr. H. C. Wilson, Pisci-cultural Expert in the Department from 1907 to 1917, organized the Inland fisheries activities of the Department by establishing hatcheries and fish farms, introduction of exotic fishes, surveying river fisheries and by introducing conservancy measures. The Post-war Development plans of the Government gave a fillip to the development of the activities of the Department. The First and Second Five-Year Plans gave further opportunities for expansion of the activities of the Department. Seventeen schemes with a total outlay of Rs. 95·14 lakhs are now being implemented.

Research.

The importance of researches and up to date successful fishery development in the State has been reorganized by the Department from its inception. Marine biological stations were established at Krusadai Island (1927), Ennore (1946), Tuticorin (1947) and Cape Comorin (1957). The fresh water biological station was established in Madras in 1942 and moved to Bhavanisagar in 1954. A technological station was established in Tuticorin in 1956. At all these research stations valuable data are gathered for the proper conservation, development, exploitation and utilization of the fisheries resources of the State.

Marine Fisheries.

By conducting exploratory fishing with different types of powered vessels and modern gear the Department has located several potential grounds both in the inshore and offshore waters. The Department has also initiated a programme for mechanization of indigenous crafts and introduction of improved designs of fishing boats and so far 42 mechanized boats have been constructed and given to Fishermen Co-operatives together with nylon nets. Sixty fishermen are being trained every year at two Training Centres at Nagapattinam and Tuticorin to enable them to undertake mechanized fishing. Fishing harbours are being established at Madras, Nagapattinam and Cuddalore. One Ice Plant with capacity for a daily output of 5 tons and with cold-storage facilities for 15 tons is nearing completion at Tuticorin. To facilitate quick transport of fish, the Department maintains a fleet of 21 vehicles. The existing fish markets are being improved for popularising fish. Nineteen fish-curing yards are maintained for processing of fish.

Inland Fisheries.

About 70 fishery demonstration units function in the State to survey all cultivable waters and for facilitating fish-seed distribution and for imparting instruction on fish-farming. On an average about three crores of fishlings are collected from about 60 natural nursery areas and transplanted into various inland waters every year. Reservoirs constructed in connection with river valley projects are being developed as productive fisheries. The fisheries of estuarine regions of rivers are rationally exploited through a system of licensing with a view to develop estuarine and brackish water fish culture. A large model brackish water fish farm is also being constructed near Adyar. An ice-*cum*-cold storage plant with capacity for production of 5 tons of ice a day and storage of 15 tons of fish is being set up at Mettur.

Socio-economic work.

The fishermen are assisted by the Department to play their due share in increasing fish production and distribution through the co-operative movement. So far 200 fishermen co-operative societies and district federations have been organized and through them Rs. 6·5 lakhs have been distributed as long-term and medium-term loans and subsidy towards credit facilities for the elimination of middlemen, purchase of domestic as well as production requirements, construction of curing sheds, godowns and markets and for marketing their produce. Besides, several relief measures are given to the fisherfolk affected by calamities like cyclone, sea-erosion, fire havoc, accidents in the sea and failure of normal fisheries. Provision of housing schemes and construction of feeder roads to fishing hamlets are also attended to. A Fisheries Welfare Officer has been appointed to give wholetime attention to these problems.

Fish production in the State increased to 107,300 tons in 1957–58, when compared to 98,600 tons in 1956–57. The per capita consumption of fish correspondingly increased from 10·5 to 11·3 lb.

The Fisheries Department is contributing its best for the development of the fishing industry on which depend about 2½ lakhs of fisherfolk and several traders and financiers.

The Kundah Valley—Where work on the Kundah Project with Canadian aid goes on.

POWER FOR PROSPERITY

SRI V. P. APPADURAI,
Chief Engineer for Electricity.

The aggregate demand which was 252,000 K.W. at development of the Madras State with the achievement of the plan targets under generation, transmission and rural electrification. The year saw the commissioning of the biggest hydro set of the Grid at Periyar and the biggest thermal set at Madras. With the commissioning of these two sets the installed generating capacity increased from 256,500 K.W. to 321,500 K.W. registering an increase of 25 per cent.

About 1,400 miles of E.H.T. and H.T. lines and 2,500 miles of L.T. lines were constructed during the year. At the end of the year there were 11,350 miles of H.T. lines and 15,500 miles of L.T. lines. Electricity was extended to over 1,300 villages and 16,000 pumpsets. To-day 7,500 villages and 75,000 pumpsets are having the benefits of electricity.

The aggregate demand which was 252,000 K.W. at the beginning of the year has rapidly increased to 300,000 K.W. To meet the ever-increasing demand for power 1,400 million units have been generated in all the power stations.

The gross revenue earned during the period is estimated to be around Rs. 11·5 crores while the capital expenditure will be about Rs. 13 crores.

Second Plan.

The power schemes of the Madras State included in the Second Five-Year Plan envisage more than doubling the installed capacity, length of lines and the number of towns and villages electrified. The table below gives the targets for the Second Plan under generation, transmission and distribution for the Madras State; for

purposes of comparison, the all-India targets are also given:—

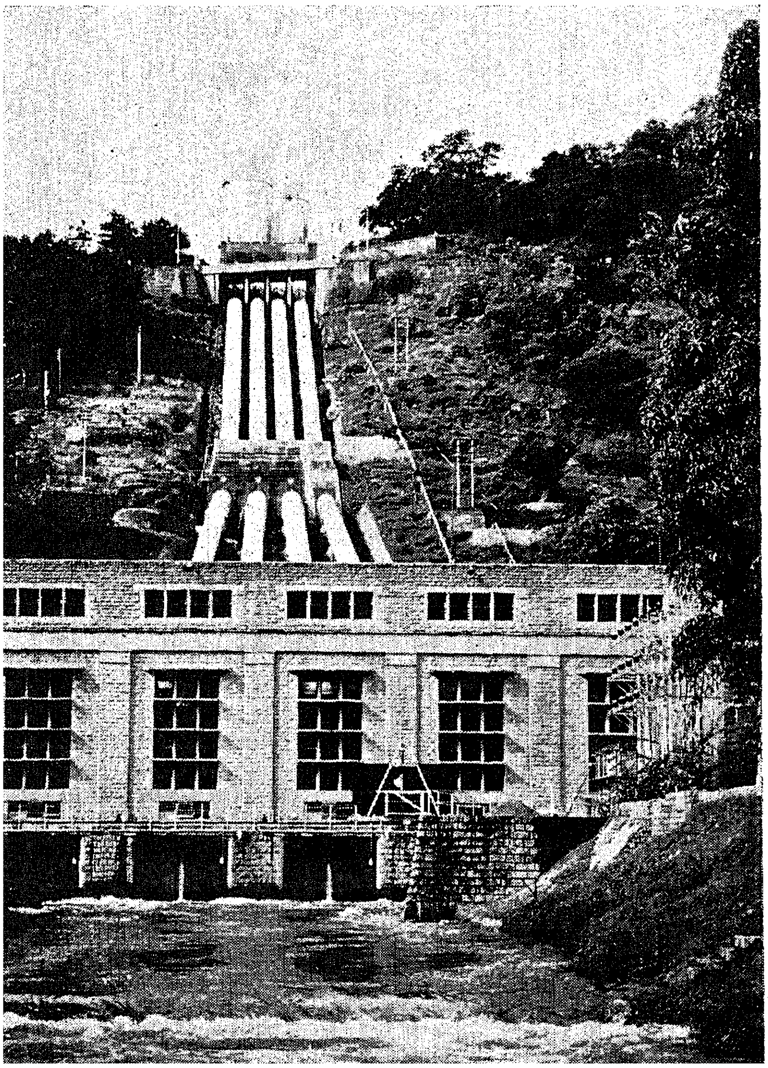
Particulars.	All India target. 1955-56.	1960-61.	Percentage increase.	Madras target. 1955-56.	1960-61.	Percentage increase.
Generation—						
Installed capacity in 1,000 K.W.	3,400	6,800	100	256	571	123
Units generated in millions	11,000	22,000	100	1,055	2,100	100
Transmission—						
H.T. lines—11 K.V. and above	35,000	70,000	100	7,343	15,500	112
Distribution—						
Number of villages and towns electrified	7,400	18,000	145	3,543	10,000	182
Per capita consumption in units	25	50	100	25	60	140

Progress.

Generation.—The Madras Plant Extensions (III Stage) which envisaged the erection of a 30,000 K.W. set with two numbers 150,000 lb.|hr. boilers were commissioned in April 1958.

All the civil works of the Periyar Hydro-Electric Scheme were completed and the first unit was commissioned in October this year. The second and third units are expected to be commissioned before March 1959 adding 105,000 K.W. installed generating capacity to the Grid.

The Power-house at Papanasam.



For the Kundah Hydro-Electric Scheme, civil works are in full swing in all the dam sites, tunnels and the power-house sites. The generators for the first plant have already been shipped and it is programmed to commission the first unit by October 1959. The initial phase comprising of the first two stages will be completed within the Plan period and will add 180,000 K.W. installed generating capacity to the Grid.

Transmission.—Including the transmission lines proposed under the Kunda and Periyar Hydro-Electric Schemes, an additional 8,200 miles of E.H.T. and H.T. lines and 8,000 miles of L.T. lines will be erected during the Plan period. Of these, 4,200 miles of E.H.T. and H.T. lines and 7,300 miles of L.T. lines have already been erected to the end of December 1958. A major stride in respect of transmission during the Second Plan period will be erection of the first 230 K.W. line in the State from Kundah to Madras which will convey power generated at Kundah to Madras a distance of about 300 miles.

During 1958, the following transmission lines were completed and commissioned:—

(i) Madras-Villupuram 110 K.V. line.

(ii) Sembatti-Tiruchirappalli 110 K.V. line.

(iii) Sembatti-Karur 66 K.V. line.

(iv) Periyar-Theni-Madurai 110 K.V. line.

Rural electrification.—Madras continues to maintain its lead in the matter of rural electrification with over 7,500 towns, villages and hamlets electrified by 1958. During the Second Plan period, it is proposed to extend electricity to 5,000 additional villages. Of these about 2,620 have already been electrified during the first two years and 900 villages in the first nine months of the current year. About 32,440 pumpsets were working on electricity at the end of the First Plan period. Today nearly 75,000 pumpsets are deriving the benefits of electricity.

With the commissioning of the 30,000 K.W. set at Madras and 35,000 K.W. set at Periyar, Madras, ranks third in generation and utilization of power, Bombay and Bengal leading. In the matter of hydro-electric development, Madras is second only to Bombay. Madras continues to lead the rest of India in rural electrification with over 7,000 villages taking electricity supply.

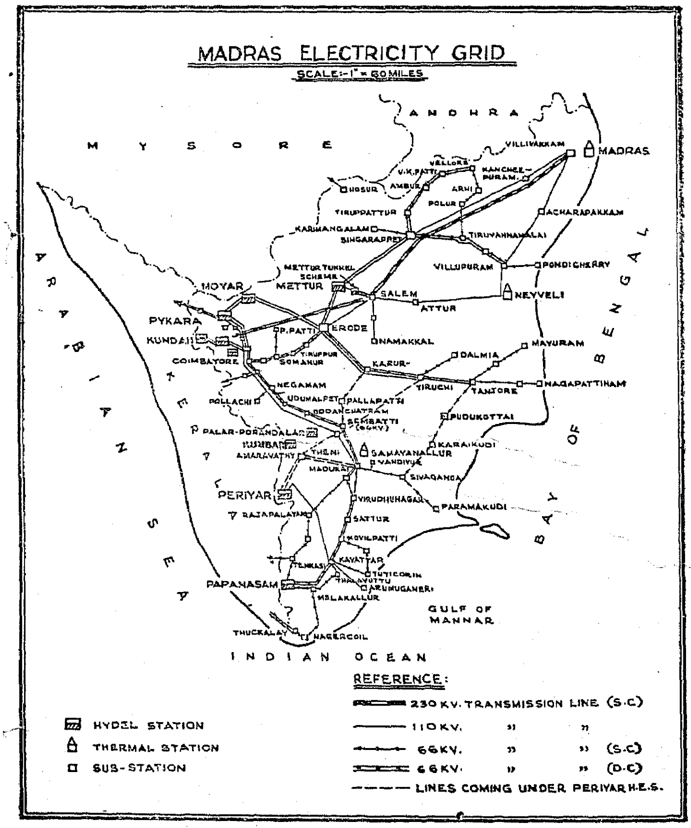
Future plans.

Demand for power in the State is widespread and insistent. Several new industries are being planned all over the State and power for them is to be provided from the Grid. The important industries coming up in the State are the aluminium industry, soda ash plant, raw film factory, paper factory and cement industry. The requirements for these are estimated at 120,000 K.W. Apart from these the department will have to meet the growing requirements of small scale industries and the lignite mining load apart from demand from rural areas.

To meet the growing demand which is expected to be of the order of 549,000 K.W. in 1961-62, new power sources have to be tapped. Sanction of the Government of India is awaited for the Mettur Tunnel Scheme to utilise the irrigation discharge at Mettur Dam which will give 200,000 K.W. seasonal power for seven months. The investigations of the Palar-Porandalar Scheme and Kumbar-Amaravathi Scheme have just been completed while the investigations of Kundah ultimate phase is under progress.

The integrated Neyveli Lignite Scheme of the Government of India contemplates the erection of a thermal station of 250,000 K.W. capacity and it is expected that about 200,000 K.W. of power would be made available to the Madras Grid.

The recent conclusion of an agreement between the Kerala and Madras States regarding the Parambikulam Scheme has opened up further possibilities in the power development of the State. It is estimated that about 150,000 K.W. of additional power will be available to Madras from this scheme.



FIRST PLANE OVER MADRAS.

Madras was the venue of the first attempt to fly a heavier than air machine within seven years of the experimental flight of the Wright Brothers at the Kittyhawk. The monoplane was seen by the citizens of Madras to zoom past over their heads at the none-too terrific speed of about 20 miles. This was on November 2, 1910.

SALES TAX

Sales Tax was first introduced in Madras to recoup the loss incurred due to Prohibition. To-day it has become a main source of income and was even mentioned by one of the former Finance Ministers of the State as Kamadenu.

(*Continued from page* 60)

Vyakarna Mandapas and Vyakyana Mandapas. There were music halls and dancing theatres. A Chola inscription of the eleventh century A.D. records the existence of a hospital with fifteen beds, a physician, a surgeon, two female nurses and a host of pharmacists and hospital subordinates with a large stock of herbs and drugs. There were orphanages and houses for feeding the poor and providing for their clothing. Another Chola inscription refers to a college of three hundred students, ten teachers and a spacious hostel to accommodate them. Every temple had its library, known as Saraswathy Pandaram. In this sacred place, there were a number of Ramanuja Koodams for the feeding of the poor. The large mass of inscriptions during the Vijayanagar Emperors shows that temples were the pivotal points of economic reconstruction. Almost every large benefaction (Nibandams) that poured into the temple treasury, was invariably for the improvement of agricultural conditions, for construction of new and for repairing old works of irrigation. The dumb cattle too had their share of attention and the livestock improved and multiplied through Pasumadams.

The great centres of learning everywhere had sprung from great centres of religion. In our own Tamil Nad, the most ancient shrines were the cradles of renowned universities. The Meenakshi temple was the habitat of successive Tamil Sangams. In the sacred city of Kanchi existed not one university, but several. The Buddhist, the Jain, the Vaishnavite, the Saivite, all had their separate and highly advanced schools of learning, as was in Nalanda of the North. The temple of the Tamils, in short, is an institution, a symbol of national solidarity and a sign of prosperity of the people. It is a museum and a college. It serves as a source of history for the future. We therefore bow down our heads to our forefathers, who were master builders of temples and their adjuncts.

M.I. (AI)—12

Preservation of Cattle Wealth

DR. D. PATTABHIRAMAN,
Director of Animal Husbandry.

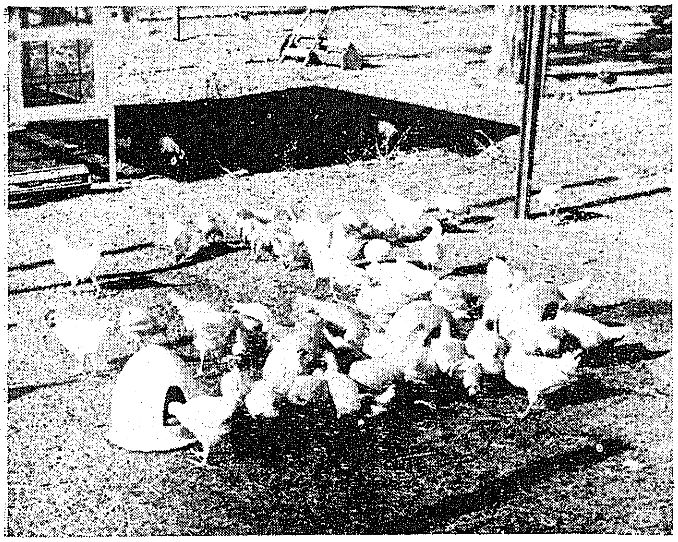
The Animal Husbandry Department, whose activities towards the development of livestock wealth of this State have gained wide-spread popularity, had its humble origin as early as 1868 when a Royal Commission was set up to report on cattle diseases in India. It was in pursuance of the recommendations of the Royal Commission that a Civil Veterinary Department for Madras was set up in 1892. Even in those early years lack of adequate number of well-trained personnel to man the Department was keenly felt and to overcome that difficulty a Veterinary Institute was started in 1903 in a rented building in Vepery near the S.P.C.A. hall and it is that institute which has subsequently developed itself into the present Madras Veterinary College. Step by step, slowly but surely, the Department grew up, and in 1920 with the provincialisation of the Veterinary institutions, which were till then under the local bodies, the Department was in the charge of a Chief Superintendent and four Deputy Superintendents to assist him, each in charge of one of the four divisions into which the Presidency was then divided for administrative convenience. In 1923 the divisions were reconstituted into circles the number of which kept on increasing with the increase in the activities of the Department. In 1926 the College which was independent of the Chief Superintendent till then was placed under his over-all control and thus the administration of the entire department together with the College was entrusted to a single officer who was designated the Director of Veterinary Services. A significant development which can very well be termed a land-mark in the history of the Department took place in 1938 when the Livestock Section of the Agricultural Department was transferred to the Animal Husbandry Department. Till that date the Animal Husbandry Department was confining itself to investigation and eradication of animal diseases and only from then onwards the emphasis has been rightly shifted to the proper development of livestock on scientific lines. It was but fitting that the development of livestock wealth was entrusted to well-trained veterinarians.

It is no exaggeration to say that the advent of freedom gave an added impetus to this Department and its activities have increased by leaps and bounds in recent years, thanks to the abiding interest of the members of the Government and the popular representatives. In 1948 the designation of the head of the Department was changed from the 'Director of Veterinary Services' as 'Director of Animal Husbandry'. Today subsequent to the reorganization of States in 1956 the Department is manned by a Director assisted by three Deputy Directors, one each in charge of 'Veterinary', 'Livestock' and 'Key Villages'. There are 107 Gazetted Officers in charge of district administration, livestock farms, education, research work, etc., besides 544 Veterinary Assistant Surgeons, 124 Veterinary Livestock Inspectors and 507 Stockmen.

Cattle.

Madras State, according to 1956 census figures, has 9·7 million white cattle, 2·0 million buffaloes, 7·0 million sheep, 3·8 million goats, 0·02 million horses and ponies and 0·64 million other species of animals making a total of 23·16 million livestock besides a poultry stock of 10·4 millions. Though Madras possesses 7·5 per cent the total livestock population of the Indian Union the national wealth derived by the livestock of this State falls far below that of the other States in the Indian Union. This is mainly attributable to the large number of useless and unproductive cattle of non-descript type in this State. It is well-known that the milk-yield of a cow in this State ranges only from 2 to 3 lb. a day and the per capita consumption of milk is only 2·44 oz.

As almost 95 per cent of the cattle in this State are of a non-descript variety and consequently unproductive it has been quite a problem to grade up the cattle of non-descript variety with pure breeds of Sindhi, Gir, Jersey and Murrah for milch type and Kangayam, Hallikar and Umbalachery for draught purposes. However it is with a view to achieve this very object that Livestock Farms at Hosur, Orathanad, Pudukkottai and Chettinad are being maintained under the control of this Department. The Livestock Farm at Hosur is the oldest of these farms and is rightly reputed to be one of the best in the East. Sindhi, Gir and Kangayam breeds are maintained in Hosur. Murrah buffaloes and



Fowls are also distributed to farmers.

Umbalachery breed of cattle are maintained in Orathanad Farm. The Livestock Farm at Pudukkottai has been developed recently. The Livestock Farm at Chettinad is a recent creation and is being developed fast. The main function of these farms is to maintain the purity of the breeds of cattle and to further improve them and also to supply pedigree bulls to the districts to enable the ryots to grade up the local cattle. The breeding bulls are distributed to the various districts on a planned basis. At present there are 2,562 bulls of different pure breeds such as Sindhi, Kangayam, Gir, Hallikar, Umbalachery and Murrah buffaloes with the ryots in several districts distributed under the various schemes sponsored by the Government. Nevertheless there is a very large gap between the demand for and the availability of breeding bulls and it is with the object of bridging this gap as speedily as possible that the Artificial Insemination Scheme was introduced in 1948 with the setting up of two Artificial Insemination Centres—one in Madras and another in Coimbatore. It is heartening to note that the Artificial Insemination Scheme has become increasingly popular and that there are at present 28 Artificial Insemination Centres spread throughout the State.

Cross Breeding Scheme.

With the specific object of improving the local nondescript cattle in the hilly and heavy rainfall areas in this State by the introduction of foreign Jersey blood through Artificial Insemination a 'Cross Breeding Scheme' in Ootacamund has been sponsored by the Indian Council of Agricultural Research in 1955. The semen of Jersey bulls is flown from the Southern Regional Artificial Insemination Centre, Bangalore, and local cows in Ootacamund and its surroundings are inseminated.

Key Village Scheme.

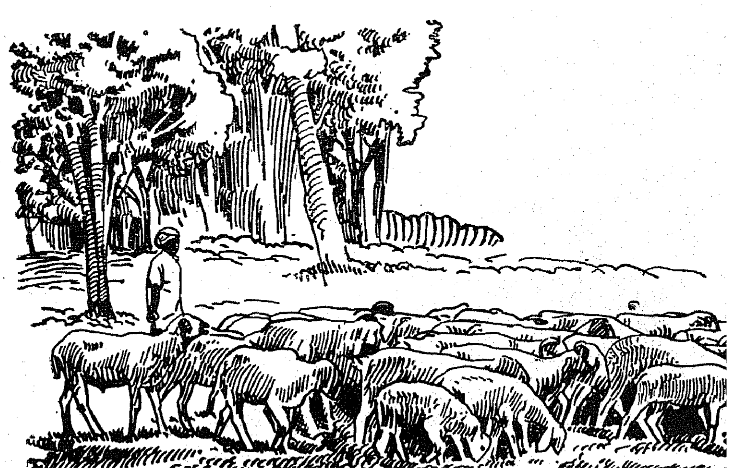
Concentrated work towards the improvement of livestock is carried out through Key Village Schemes. The Key Village Scheme aims at intensive livestock improvement in a compact area so that all aspects of animal husbandry such as controlled breeding, proper feeding, rearing of young stock, cultivation of fodder crops, silage making, pasture management, dairying and producing seed-bulls. A compact area consisting of a group of contiguous villages containing a population of 5,000 cows and|or she-buffaloes of breedable age is selected as a Key Village Block. All scrub-bulls in the area are compulsorily castrated and only pedigree bulls are allowed to propagate by natural service or by artificial insemination. There are at present 28 Key Village Centres in the State where both natural service and artificial insemination are carried out free of cost and controlled breeding is ensured by the systematic castration of all scrub-bulls. Selected calves in the area are also subsidised at the rate of Rs. 10 per calf. For the systematic utilization of bulls produced in the Key Villages 17 Supplementary Extension Centres have been established. In each of those centres 50 bulls of approved breeds are distributed in a compact area to select custodians for natural service and a sum of Rs. 30 per month is paid as subsidy to each of the custodians.

Sheep and goats.

Besides cattle-wealth this department has been paying equal attention to the development of sheep and goat. The Sheep-breeding Farm at Ootacamund concentrates on standardizing the woolly sheep in Nilgiris for its wool quality, increasing its carcass weight, and supplying good stud rams to the public to grade up the local sheep. With a view to improve the quality as well as quantity of wool of the local sheep crossbreeding with the Australian breed of Romney Marsh Sheep is also encouraged. Sheep-breeding on sound lines is carried out in the Livestock Research Station, Hosur, also where Bikaner and Mandya rams are made available to improve the local flock not only from the point of view of increased quantity of wool but also of producing better mutton-yield. Under the Second Plan a sheep farm was opened in Chinnasalem for the development of sheep in and around that area. Very recently another sheep farm was opened at Kattupakkam in Chingleput district. Eight sheep and Wool Extension Centres have been established in the State to help the ryots take to improved methods of sheep-breeding. Several sheep-shearing units have also been established in several parts of the State where intensive propaganda and visual demonstration of using improved shears, better production and clean harvesting of wool, etc., are carried out.

Poultry.

Great strides have been made in Poultry Development also. Intensive poultry development work in this State is carried out through the Poultry Research Station,



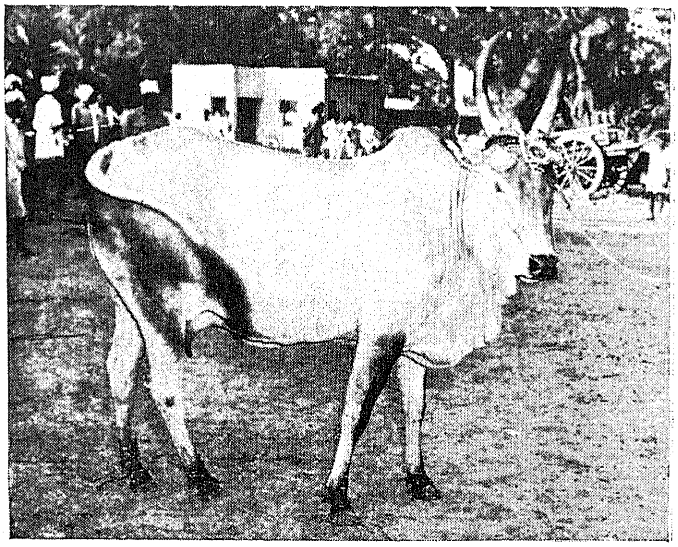
Teynampet, Madras, the Poultry Sections at the Livestock Farms in Hosur and Orthanad and the Poultry Demonstration Units in the Veterinary institutions. Pedigree birds and eggs are supplied to the public. Such a supply on an extensive scale is carried out in the Community Development and National Extension Service areas. Attention is concentrated on the improvement of local breeds of poultry by grading up with superior strains of exotic breeds in the Poultry Extension Centres. White Leghorn, Rhode Island, Red and Black Minorca are made available in large numbers in the Poultry units maintained throughout the State. It has also been proposed to pay a subsidy of Rs. 850 each to select poultry breeders to enable them to purchase incubators and other scientific aids for poultry rearing.

Animal Health Service.

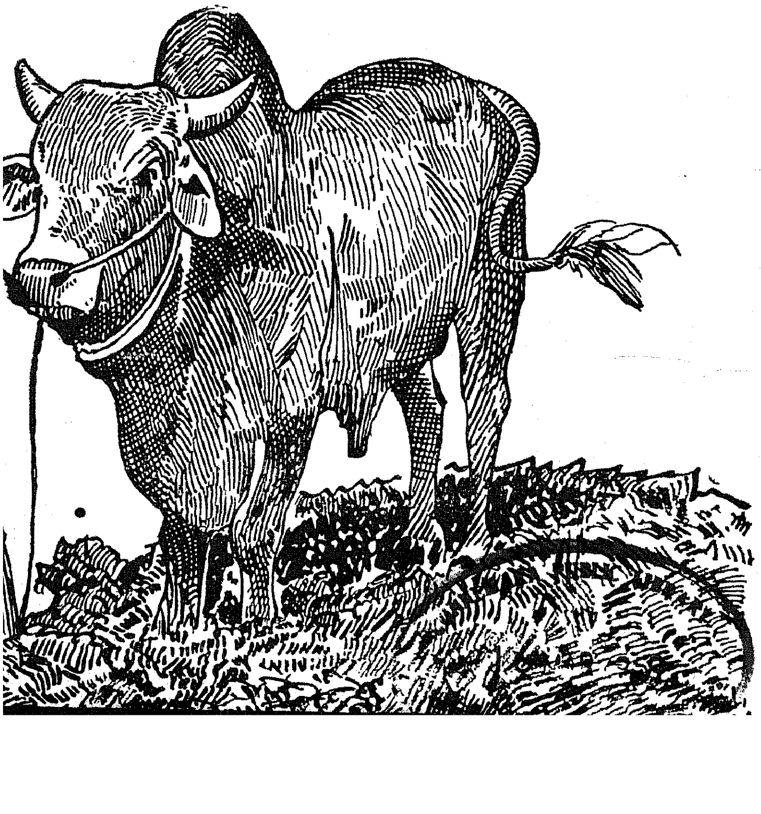
For the expeditious and effective control of contagious as well as non-contagious and parasitic diseases, an efficient Veterinary Organization, both at headquarters and the field, has been set up the State.

There are 112 Veterinary institutions consisting of hospitals and dispensaries at present in this State, opened at various centres depending upon the demand from the public and the need of the area concerned. These institutions are intended for the treatment of cases, both surgical and medical, for the castration of scrub bulls and to serve as infirmaries for the animals remanded under the Society for Prevention of Cruelty to Animals Act and to conduct post-mortem on dead bodies brought by the public as well as the Police. Clinical Laboratories are also now located in most of the district headquarters, hospitals and at the Livestock Research Station, Hosur Cattle Farm, for investigation, early diagnosis and treatment of diseases both in hospitals and field.

In addition to these Veterinary institutions this Department provides veterinary aid even at village level through a team of touring staff consisting of Veterinary Assistant Surgeons, Veterinary and Livestock Inspectors and Stockmen compounders. The headquarters of these staff are usually fixed at Taluk Headquarters for each of these touring billets consisting of a taluk or even less. There are at present 15 such touring billets.



Prize cows as this contribute to the quality of cattle wealth.



The common contagious diseases affecting cattle in the State are Rinderpest, Hæmorrhagic Septicæmia, Black Quarter, Anthrax, Foot and Mouth. Out of the above contagious diseases Rinderpest was mainly responsible for a heavy toll of life among cattle. It is really gratifying to note that due to the untiring efforts of the field staff of this Department this dreadful disease of cattle has been eradicated from this State and this State is free from Rinderpest since 1952–53 although this is reported to be prevalent in the neighbouring States of Andhra and Mysore. With a view to keep this State permanently free from the ravages of Rinderpest by warding off even the tickling of infection from the neighbouring States, quarantine stations now renamed as check posts have been established at Tiruvalem of North Arcot district and Tiruvottiyur of Chingleput district and all animals entering the State are protected against Rinderpest and branded with a standard 'O' mark. The animals in the villages to a depth of 15 miles from the border are also protected so as to create an immune belt in the borders of the State.

Among the other contagious diseases prevalent in the State, Black Quarter, Hæmorrhagic Septicæmia and Anthrax appear in this State, depending mostly on climatic variations. During the year 1957–58, there were only 9,149 deaths in the State, indicating a negligible percentage of mortality to the 23 million of livestock population of this State. This is mainly attributed to the advance preventive inoculations done by the field staff of this Department in all the endemic areas, marked out separately for each diseases in addition to inoculations conducted in affected and free areas of the State. The efficiency in respect of prompt control of contagious diseases is further expected to be enhanced by providing at least one Veterinary Mobile Unit in each district under the Second Five-Year Plan.

Four such units have already been introduced in the districts of Chingleput, Tanjore, Tiruchirappalli and Tirunelveli and three more are to be opened during 1958–59 for ensuring expedience in attendance of outbreak reports and covering a large number of villages under the mass campaign of advance preventive vaccinations in free areas. Nearly four lakhs of animals were protected during 1957–58 in this State against the various contagious diseases, mostly in the endemic areas.

Institute of Veterinary Preventive Medicine, Ranipet.

All the biological products required to combat contagious diseases like Rinderpest, Black Quarter, Hæmorrhagic Septicæmia, Anthrax, etc., among cattle Ranikhet diseases, fowl-pox, etc., among poultry and sheep-pox, etc., are produced at the Institute of Veterinary Preventive Medicine, Ranipet. During 1953 a freeze drying machine with accessories was supplied to the Institute by the Food and Agriculture Organization and a Veterinary Expert was assigned to this institutions to train the staff in handling the equipment and for the manufacture of vaccine on modern lines. All the virus vaccine are now manufactured and supplied in freeze dried from this Institute. Besides meeting the demand of the field staff of this Department, the biological products manufactured at this Institute are also being supplied to other States like Kerala, Coorg, Kutch, Bombay, Madhya Pradesh, Rajkot, Bhavanagar and Pondicherry. The institute is equipped with a number of modern equipments to facilitate research and manufacture of biological products on efficient lines. Research work on the improvement of vaccine comparative studies on immunising value and experiments on types of mixed vaccine are also undertaken at the institute.

In addition to the laboratory staff working at this institute there are separate Disease Investigation staff who undertake disease investigation work in the State and conduct field trials thereby co-ordinating the work done at the Laboratory.

Madras City Milk Plan.

With a view to reorganize the milk supply in the City a Scheme known as Dairy and Milk Project has been sanctioned under the Second Five-Year Plan. Under this scheme it has been proposed to evacuate city cattle and accommodate 4,000 good cattle from among them in a colony at Madhavaram, 7 miles from the City. The fodder required for the colony will be supplied from the sewage farm developed by the City Corporation adjacent to the Colony. The milk produced in the Colony together with the collections from rural areas will be processed in a large dairy to be set up and distributed to the public. This will provide unadulterated and wholesome milk for the public.

Government Milk Factory, Madras.

The Government Milk Factory, which was started by the Revenue Board in 1947 to augment the milk supply in the city by supplementing with reconstituted milk as a war-time measure was handed over to the Animal Husbandry Department on 1st October 1955 for supplying ' Toned Milk ' to the public with the sole object of making it available at a lesser cost. About 4,000 lbs. of toned milk are produced and supplied by this Factory for the consumption of the public daily. Besides, the toned milk, dairy products such as ice-cream, rose-milk are also produced at the Factory for sale to the public at moderate prices.

From the foregoing account it will be seen that this Department has been engaging itself in ceaseless activity towards the betterment of the ryot enabling him to pay adequate and proper attention to Animal Husbandry which is after all the hand-maid of Agriculture. As an effective methods of reaching the ryot several cattle-shows and exhibitions have been organized from time to time. The response and co-operation from the general public towards the activities of this Department have been forthcoming in abundance making us feel confident that we will play our rightful part in the building up of the Nation.

(*Continued from page* 19)

by the Orissa Government in their Hirakud Project, by the Central Water and Power Commission, by the Damodar Valley Corporation, by the Neyveli Lignite Corporation, by the World Health Organization and by other Administrations within and without this State. This in itself is a sufficiently eloquent tribute to Madras Engineers.

The present younger generation of Madras Engineers are justly proud of the really great achievements of the State Public Works Department. They, at the same time, fully realize that such achievements have been possible only by the zeal, enthusiasm whole hearted work an dsingleminded devotion to duty on the part of their illustrious predecessors some of whom, even lost their lives in the worthy cause of constructing monumental works like the Periyar Dam. They also realize that very high traditions of work and conduct have been established (in the course of more than a hundred years during which the department has usefully functioned), which they should emulate and build up on the excellent foundation laid by their illustrious predecessors like Sir Arthur Cotton, Col. Pennycuick and more recently by several of their worthy successors. While paying their humble tribute to these illustrious predecessors of theirs, the Engineers of the Madras Public Works Department sincerely and fervently dedicate themselves to the onerous but glorious task that is now before them, with wholehearted zeal and enthusiasm so that this great country of ours can prosper more and more. The responsibilities that have devolved on Engineers after we attained Independence are undoubtedly vast and manifold, but in view of the past history and the glorious record of the Madras Public Works Department, there can be no doubt that all the Engineers and other staff of the department will rise up to this great occasion and following their high traditions, help build greater monuments of India's progress an dalso build them higher and better than ever before. Their motto in dedicating themselves to this noble task will always be " Service, integrity and efficiency " and God willing, they will live up to that, and thereby bring honour to themselves and the noble profession to which they belong.

M.I. (Al.)—13

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EVENTS OF SIGNIFICANCE IN 1958

The year 1958, has been quite an eventful year for Madras. On the first day of the year itself the Chief Ministers of Madras, Mysore and Andhra, met at Mahabalipuram at the invitation of the Chief Minister of Madras and reviewed the position arising out of the report of the Official Language Commission. They expressed their agreed view that the discontinuance of English by 1965 was impracticable. On the 3rd day of January 1958, Sri C. Subramaniam, Finance Minister, held a press conference, at which the stand of this State in regard to the language question was explained. The Chief Ministers and Ministers of Kerala discussed about the diversion of the Parambikulam waters to Madras in June. In November an agreeable solution was reached in this regard. Sri M. Baktavatsalam, Home Minister of Madras and Sri Kala Venkatarao, Minister for Revenue, Andhra, discussed the problems relating to the border of Madras and Andhra States and decided to implement Sri Pataskar's award without modification.

The Prime Minister of India, Sri Jawaharlal Nehru, visited the City on January 6 to inaugurate the 45th session of the Indian Science Congress. He also declared open the Industrial Estate at Guindy.

Tamil was adopted as official language of the State on January 14, 1958. From this day, 1,922 Government offices in the State began using Tamil in their ordinary business.

The State got a new Governor in the person of Sri Bishnuram Medhi, who was sworn in on January 24. The Governor addressed a joint session of both the houses of the Legislature on February 8th. Dr. P. S. Lokanathan's report on sales tax was released on the same day.

The Budget for the year 1958–59 was presented to the State Assembly on March 1 by Sri C. Subramaniam, Finance Minister. The pearl fishery at Tuticorin was inaugurated on March 2 by Srimathi Lourdhammal Simon, Minister for Local Administration. This lasted until the end of April and was conducted successfully.

A Committee was appointed to hold enquiries and advise the Government in fixing minimum wages for persons employed in any tobacco manufacture (including beedi making) in the State. The Madras Catering Establishments Bill was passed in April 1958. The Panchayats Bill, abolishing the District Boards and vesting the power in Panchayats was also passed last year. It was decided to bring into force the Sales-Tax Act based on the recommendations of Dr. Lokanathan from April 1, 1959.

Dr. Rajendra Prasad, President of India, visited the State in August 1958. In the course of his tour in the State, the President declared open the new hostel for the women students of the Presidency College at Madras and laid the foundation stone for a medical college at Tanjore and for the Regional Post-Graduate Research Institute for Agriculture at Coimbatore.

Regional Post-Graduate Training in Veterinary and Animal Husbandry was inaugurated in the Madras Veterinary College in September. In the field of secondary education, great strides were taken. The school improvement Project Conference which was held at Kadambathur in the Chingleput district was just a spark which touched off a great flame of enthusiasm in the minds of the people of the State. The success of this conference made the people in other parts of the State come forward to donate freely and with great enthusiasm cash and kind for the benefit of the schools in their area. More than a dozen such conferences have been held in the State and lakhs of rupees in cash as well as things worth lakhs of rupees have been collected. Another aspect of education in which Madras is poineer is the supply of free midday meals to poor children in the State schools. This is done in almost all aided schools and municipal and Government schools in the State. The children of Non-Gazetted Government Officers are provided facilities for free education up to Sixth Form. And education for all children in the State has been made free up to Fifth Standard. An Advisory Board on education was also set up in 1958.

That year also saw the completion of Manimuthar and Amaravathi Reservoir projects in the Tirunelveli and Coimbatore districts respectively. Construction of the Vaigai Project in Madurai district proceeded at a fast pace and finishing touches to the dum were being given at the end of the year. Works on the Vidur

Public participation for the progress of Education. This lady is giving her mite for the development of schools to Shri Pant, Union Home Minister at one of the Pilot Co-ordination Conferences.

Reservoir Project across the river Varahanathi in South Arcot district and one across the Neyyar in Kanyakumari district were begun in 1958 and they are fast progressing.

In October 1958, the first power generating unit at Periyar was commissioned. The work on the Kundah Project also is proceeding without pause.

The reader will have gathered from this feature that Madras is forging ahead with its plans and schemes for the good of the people and that no effort is spared to maintain an atmosphere of amicability and goodwill with neighbouring States.

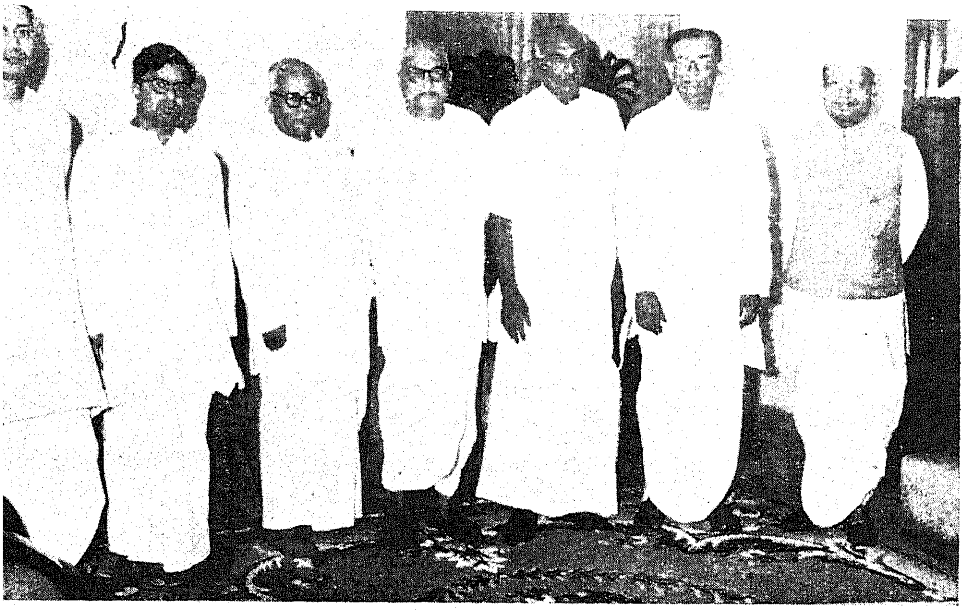
(*Continued from page* 26)

approach to the novel. Our writers are really proceeding along the right line, and their efforts are likely to bear fruit in remarkable creations of a high order. The art of the essay is of recent development; but good essays have begun to adorn our literature. The aspects of biographies and auto-biographies have begun to claim the attention of writers; the Tamil encyclopaedia launched by Sri T. S. Avanasilingam covers a wide range of subjects. It is an ocular proof that Tamil is expanding her frontiers of knowledge in every direction.

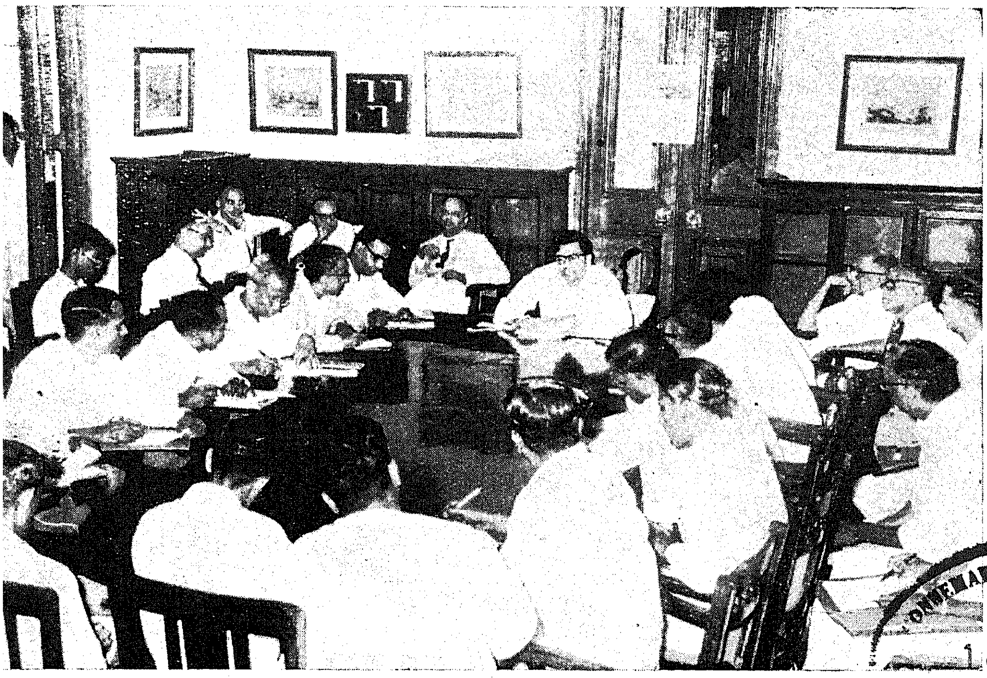
With several wholesome influences at work, we have forged an effective instrument with which we may go ahead in every field of human endeavour and thought. What we need now is a fearless pursuit of truth to its subtlest retreats. We must cultivate a highly critical sense which will alone enable us to winnow the grain from the chaff, the true from the false, the gold from the dross.

We must not allow any room for a self-complacent attitude; for it is wrought with great danger; and true perfection is gained through a series of disgusts. Let us march on from perfection to greater perfection, for—

> " All experience is an arch wherethro'
> Gleams that untravelled world, whose margin fades
> For ever and for ever when I move."



The Chief Ministers of the Southern States met on 1st January 1958 at Mahabalipuram to discuss the Language Problem.



The Press Conference held by Sri C. Subramaniam, Finance Minister, at which he explained the stand of Madras in regard to the Lingua franca of India.

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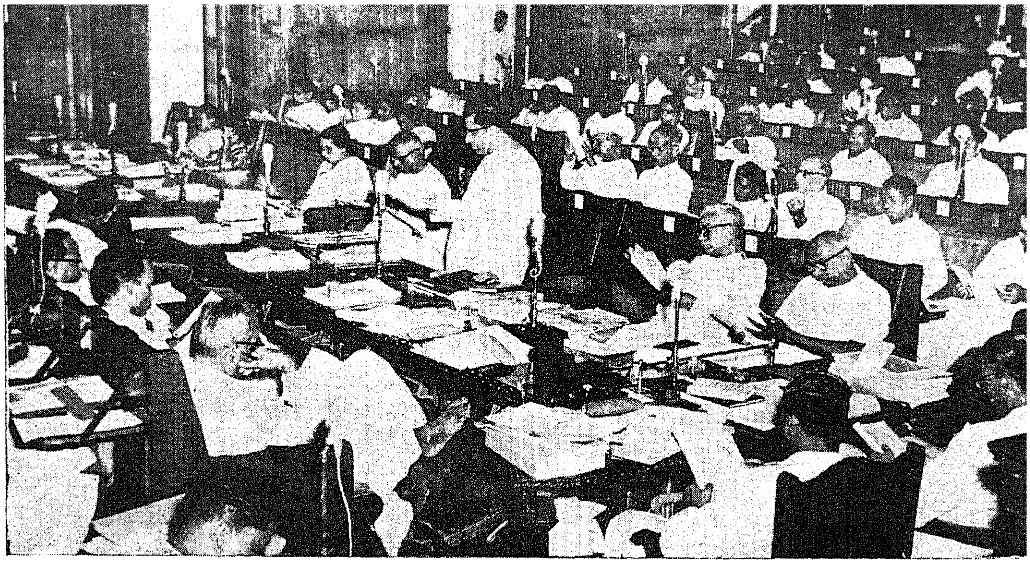
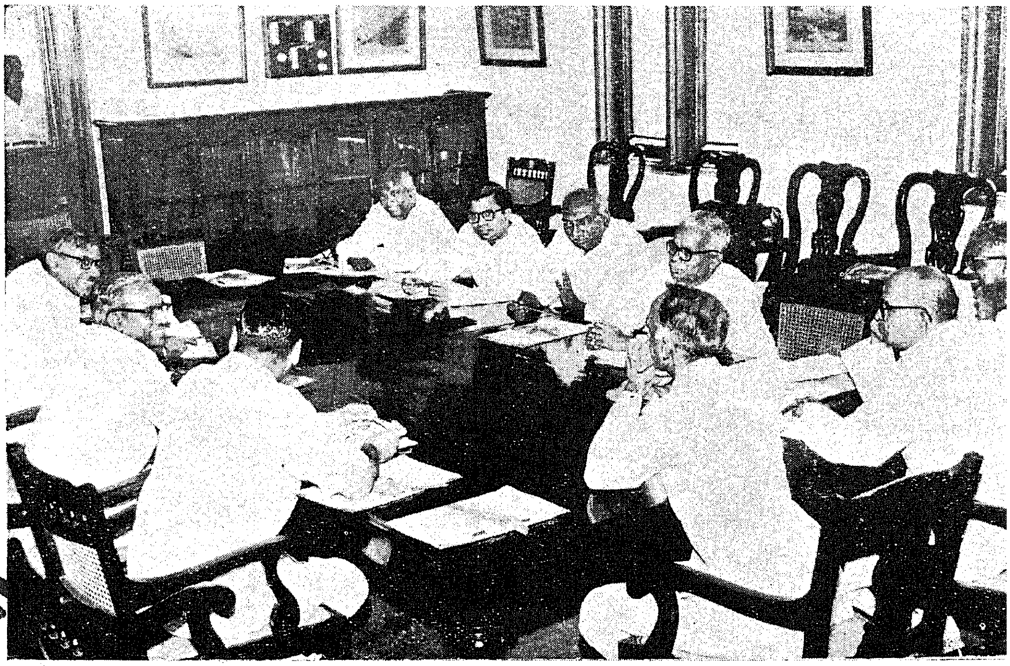
Shri Bishnuram Medhi was sworn in as Governor of Madras on January 24, 1958.

The Finance Minister presented the budget for 1958-59 at the State Assembly on March 1, 1958.



The Chief Ministers and Ministers of Madras and Kerala discussed about sharing of the Parambikulam waters in June.



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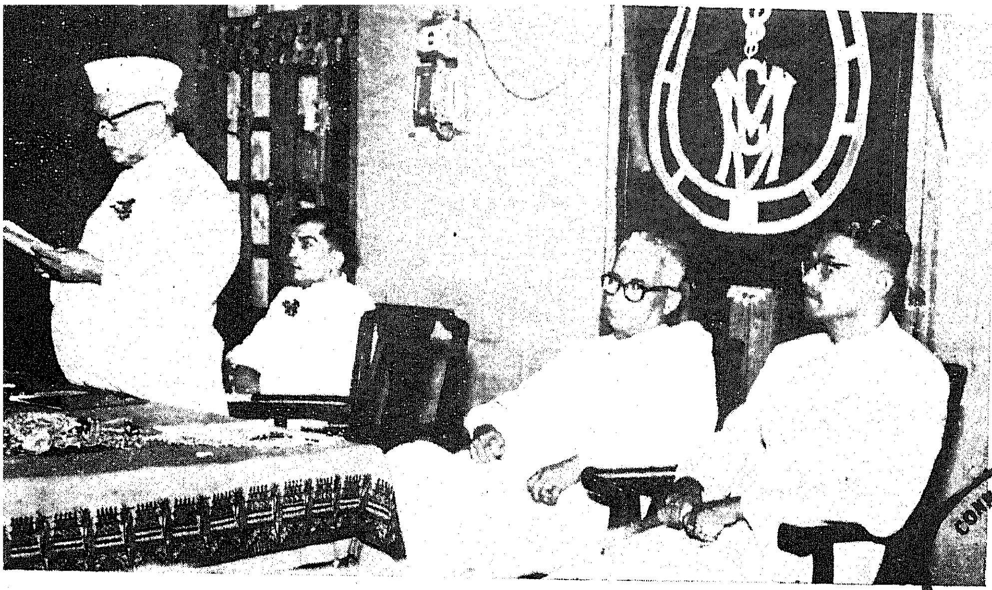
The President of India declared open the new hostel for the girls of the Presidency College.



Post-graduate courses of study were inaugurated in the Veterinary College in September 1958.

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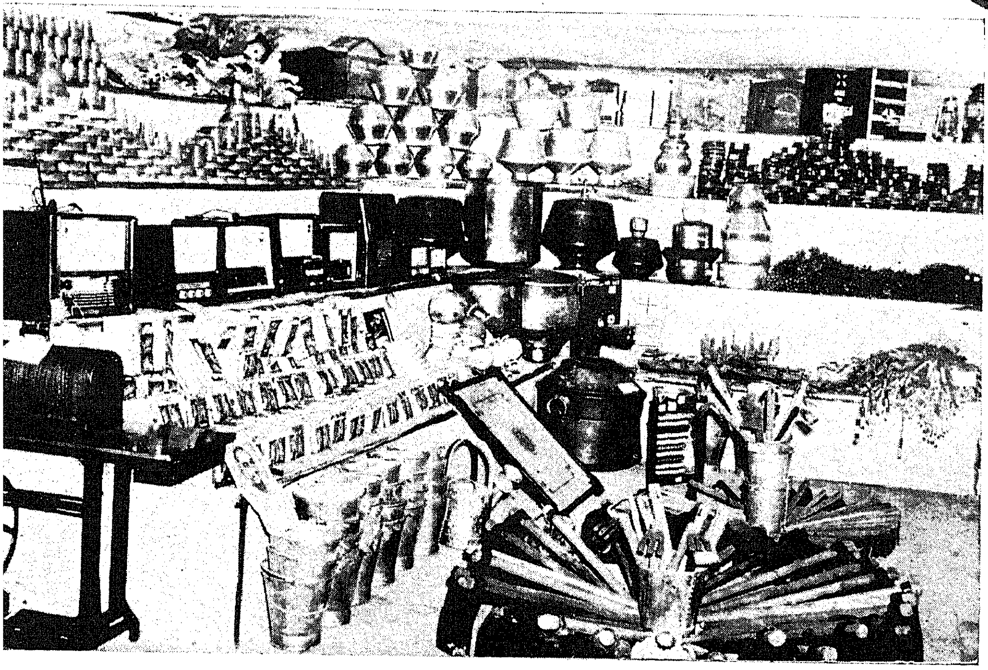
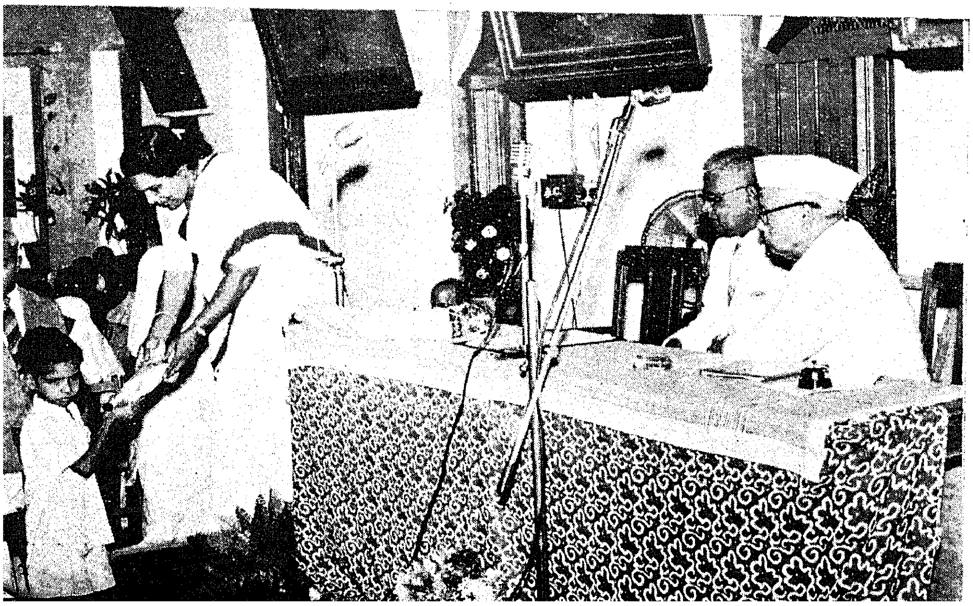
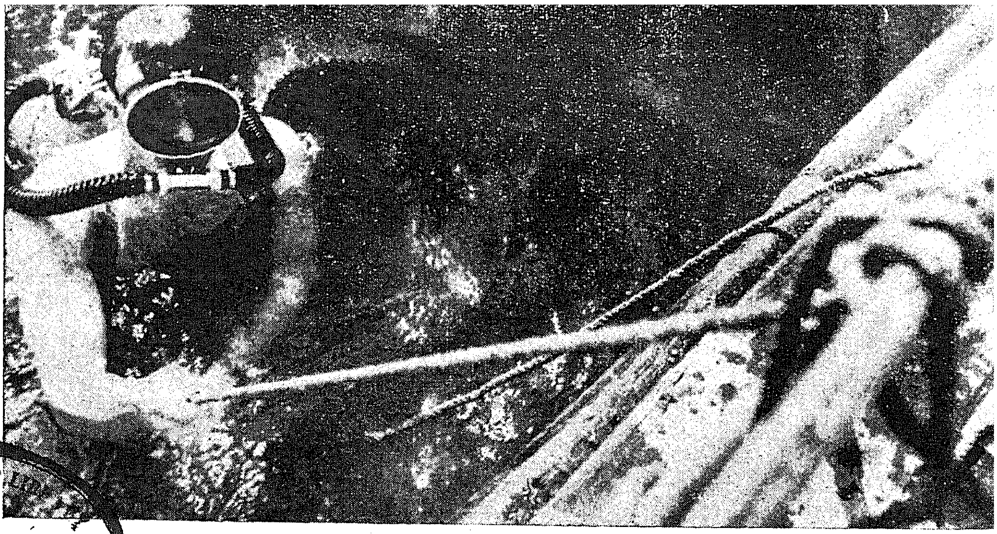


These are some of the articles donated to schools under the school improvement programme.



Supply of midday meals to the poor children in aided schools was formally inagurauted by the Governor. The photo shows Srimathi Lourdhammal Simon, Minister for Local Administration giving away the first food packet.



Pearl fishery was conducted in the State with great success in 1958.

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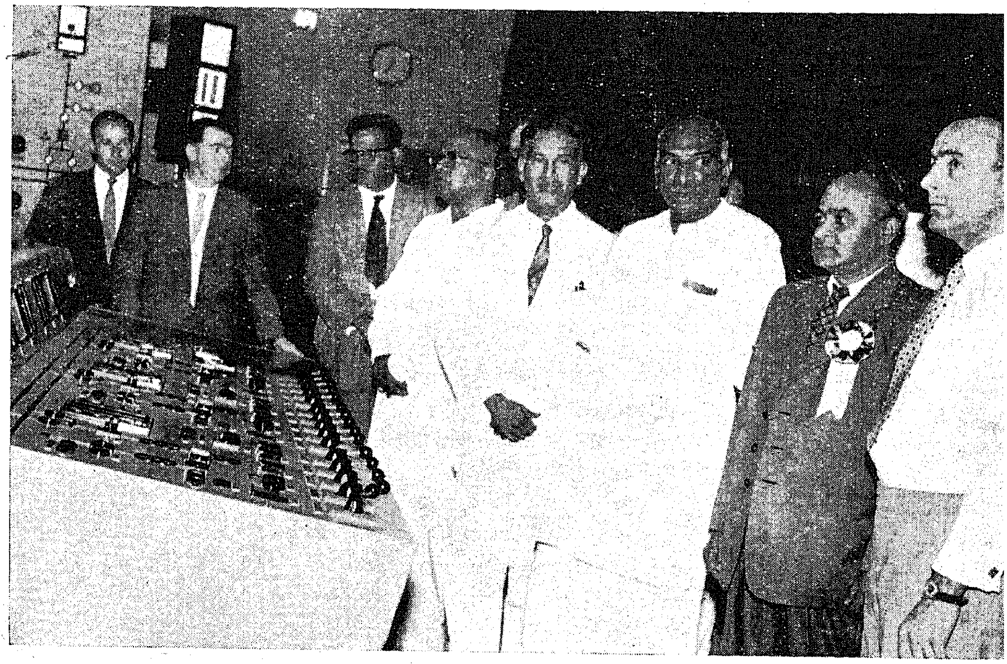

The first generator of Electricity was commissioned in October 1958 *in the Periyar Hydel Project.*

Double shift was introduced in the Government Press, Madras, on 30*th December* 1958

First in Madras State

FIRST RAILWAY IN SOUTH INDIA

Among the first eight Railway Companies formed in India about hundred years ago was the Madras Railway Company. The first line to be opened in South India was between Madras (Vyasarpadi) and Arcot (the present Wallajah Road) in 1856. It was decided to make Royapuram the main terminus probably because it was close to the Harbour and the Customs House. The Madras Railway Company's contracts expired on 31st December 1907. The lines owned by this Company were purchased by the Secretary, State of India, on January 1, 1908. A landmark in the history of Indian Railways is the Integral Coach Factory at Perambur. Its significance is second only to that of Chittaranjan Locomotive Factory.

CO-OPERATIVE MOVEMENT

To Madras belongs the honour of having taken the first step towards the introduction of the Co-operative Movement, for in 1892 the Government of Madras appointed one of its senior officers Sir Frederic Nickolson to study the movement of Land and Agricultural Banks which prevailed in Europe and report how far they could be effected to Indian conditions to establish in Madras Presidency in order to relieve rural indebtedness. His valuable report formed the basis for the Act of 1904.

True pioneers of this Movement were Sri Srinivasa Sastri and his colleagues who started in 1903 the Triplicane Urban Co-operative Society. It was in Madras again we witnessed the establishment of the first Apex Co-operative Bank in India started in 1905. The honour of establishing the first Co-operative journal also belongs to Madras—The Madras Bulletin of Co-operation. This has rendered yeoman service to the cause.

MADRAS HAND-KERCHIEF

The term Madras Handkerchief would mislead any one into thinking that it denotes the small square piece of cloth we carry in our pockets. Actually Madras Handkerchief or Pattimarpu, as it is locally known, is a class of cotton fabric manufactured on handlooms with mill yarn pre-dyed in permanent but not fast colours. These clothes are meant for export to West Africa. The export trade in Madras Handkerchiefs began in the days of East India Company when these fabrics were sold in auction in London at the intervals of three months. British merchants who purchased them re-exported them to Africa. Soon export terms came to be established in Madras. Until about the year 1928 the export trade in the Madras Handkerchiefs was exclusively in the hands of two foreign firms.

THE MADRAS CORPORATION

It is one of the oldest Corporations in India. It was established by the Charter of 1687 issued by the East India Company under the authority of its own charters, Charles the Second, and James the Second and with the sanction of the King in Council.

In 1792 Municipal administration was reorganised by an Act of Parliament. Under an Act of Madras Legislature in 1865 the Corporation was composed of a President, Vice-President and Commissioners and in their place the States Municipal Act of 1919 created a Council with a President and 50 members. In 1933 the Act was amended and the Mayor and Aldermen were revived. The new Bill which is now proposed says that the strength of the City Council should be between 100 and 110 as against the present 81.

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